DOCUMENT RESUME

ED 266 380 CG 018 860

TITLE	H.R. 2436, National Nutrition Monitoring and Related Research Act of 1985. Joint Hearing before the Subcommittee on Science, Research and Technology of the Committee on Science and Technology and the Subcommittee on Department Operations, Research, and Foreign Agriculture and the Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition of the Committee on Agriculture. House of Representatives, Ninety-Ninth Congress, First Session (June 25, 1985).
INSTITUTION	Congress of the U.S., Washington, D.C. House Committee on Agriculture.; Congress of the U.S., Washington, D.C. House Committee on Science and Technology.
PUB DATE	86
NOTE	429p.; Serial No. 99-12. Document contains small print.
PUB TYPE	Legal/Legislative/Regulatory Materials (090)
EDRS PRICE	MF01/PC18 Plus Postage.
DESCRIPTORS	*Federal Legislation; Hearings; *Nutrition; *Physical Health; *Public Health; *Public Health Legislation; Well Being
IDENTIFIERS	Congress 99th

ABSTRACT

Testimony on the National Nutrition Monitoring and Related Research Act of 1985 is presented. Congressman George Brown's opening statement discusses the need for a better understanding of the role of good nutrition in disease prevention and in attaining full growth potential. Statements are also included from Congressmen Walgren, MacKay, Panetta, Emerson, and Boehlert. Expert testimony and relevant documents are provided by representatives from the Food and Nutrition Board of the National Academy of Sciences, the American Heart Association, the Iowa State University Center for Agricultural and Rural Development, the Cornell University Division of Nutritional Studies, the Michigan Department of Public Health, the Food Research and Action Center, the American Meat Institute, and the National Dairy Council. Testimonies are also included from government representatives of the Departments of Health and Human Services, Agriculture, and the Army. Appendices include reports on food relief in New York State; materials from the American Academy of Pediatrics, the School Food Service Association, and the International Life Sciences Institute; and letters from the administration, and the text of the bill under consideration.

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H.R. 2436, NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON
SCIENCE, RESEARCH AND TECHNOLOGY

OF THE

COMMITTEE ON
SCIENCE AND TECHNOLOGY

AND THE

SUBCOMMITTEE ON DEPARTMENT OPERATIONS,
RESEARCH, AND FOREIGN AGRICULTURE

AND THE

SUBCOMMITTEE ON DOMESTIC MARKETING,
CONSUMER RELATIONS, AND NUTRITION

OF THE

COMMITTEE ON AGRICULTURE
U.S. HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

FIRST SESSION

JUNE 25, 1985

[No. 52]
(Committee on Science and Technology)

Serial No. 99-12
(Committee on Agriculture)

Printed for the use of the Committee on Science and Technology
and the Committee on Agriculture

U.S. GOVERNMENT PRINTING OFFICE
54-534 O WASHINGTON : 1986

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[1] Effective only for the first session of the Ninety-ninth Congress.

CONTENTS

WITNESSES

June 25, 1985: Page
- Hon. George E. Brown, Jr., a U.S. Representative from the State of California 1
- Hon. Doug Walgren, a U.S. Representative from the State of Pennsylvania 5
- Hon. Buddy MacKay, a U.S. Representative from the State of Florida 9
- Hon. Leon Panetta, a U.S. Representative from the State of California 13
- Hon. Bill Emerson, a U.S. Representative from the State of Missouri 18
- Hon. Sherwood L. Boehlert, a U.S. Representative from the State of New York 19
- Dr. Reynaldo Martorell, associate professor, Food Research Institute, Stanford University, and representing the National Research Council, Food and Nutrition Board, National Academy of Sciences 20
- Dr. John C. LaRosa, professor of medicine and health care sciences, George Washington University, and member, Nutrition Committee of the American Heart Association 79
- Dr. Stanley R. Johnson, professor of economics and director of the Center for Agricultural and Rural Development, Iowa State University, Ames, IA 108
- Dr. Malden C. Nesheim, director, Division of Nutritional Sciences, Cornell University 124
- Dr. Jeffrey R. Taylor, chief, division of research demonstration and evaluation, center for health promotion, Michigan Department of Public Health, representing public health and government organizations 134
- Lynn Parker, senior nutritionist, Food Research and Action Center, Washington, DC 147
- Hilarie Hoting, director of nutrition and consumer affairs, American Meat Institute 171
- Dr. Emerita N. Alcantara, director, nutrition policy issues, division of nutrition research, National Dairy Council 180
- Dr. James O. Mason, Acting Assistant Secretary for Health, U.S. Department of Health and Human Services 190
- Dr. Orville G. Bentley, Assistant Secretary, Science and Education, U.S. Department of Agriculture 220
- John W. Bode, Acting Assistant Secretary for Food and Consumer Services, U.S. Department of Agriculture 240
- Maj. Gen. Garrison Rapmund, Assistant Surgeon General for Research and Development, Department of the Army 251

APPENDICES

1. Joint report on emergency food relief in New York State, Cornell University and New York State Department of Health, April 1985 269
2. Additional testimony submitted for the record:
   - a. American Academy of Pediatrics, Committee on Nutrition 321
   - b. American School Food Service Association 322
   - c. International Life Sciences Institute—Nutrition Foundation 324
3. Letters received from the administration:
   - a. To Hon. Doug Walgren from Mr. John W. Bode, U.S. Department of Agriculture 329
   - b. To Hon. E (Kika) de la Garza from Secretary John R. Block, U.S. Department of Agriculture 331

Page

3. Letters received from the administration—Continued
    c. To Hon. Don Fuqua from Mr. Phillip D. Brady, U.S. Department of Justice 333
4. Followup questions and answers from Department of Health and Human Services 338
5. Followup questions and answers from U.S. Department of Agriculture 365
6. H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985 399

H.R. 2436, NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985

TUESDAY, JUNE 25, 1985

House of Representatives, Committee on Science and Technology, Subcommittee on Science, Research and Technology, and Committee on Agriculture, Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition, and Subcommittee on Department Operations, Research, and Foreign Agriculture,

Washington, DC.

The subcommittees met, pursuant to notice, at 1:36 p.m., in room 2318, Rayburn House Office Building, Hon. Doug Walgren (chairman of the Subcommittee on Science, Research and Technology) presiding.

Present from the Subcommittee on Science, Research and Technology: Representatives Walgren, Brown, Bruce, Boehlert, and Cobey.

Present from the Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition: Representatives Panetta, Olin, and Emerson.

Present from the Subcommittee on Department Operations, Research, and Foreign Agriculture: Representatives Brown, Volkmer, and Morrison.

Also present: Representative MacKay.

STATEMENT OF HON. GEORGE E. BROWN, JR., A U.S. REPRESENTATIVE FROM THE STATE OF CALIFORNIA

Mr. Brown [acting chairman]. The subcommittee will come to order.

I am taking the liberty of opening the subcommittee hearing in order to expedite the process of hearing from all of the witnesses, which may require a good part of the afternoon, and we will be subject to some interruptions anyway. We are expecting the chairmen of the two relevant subcommittees to appear shortly, and I know they will appreciate my getting started so they will be able to move along.

I have an opening statement which I would like to read.

I am pleased to be here for today's hearing on H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985. This is a revised version of legislation, H.R. 4684, which was introduced by Congressmen MacKay, Walgren, and myself last year.

Human nutrition is an expanding field with much left to be explored and revealed. Despite our longstanding knowledge of severe nutritional deficiencies such as scurvy and others, our society has only recently begun to recognize the integral role proper nutrition plays in maintaining our national health. It is now becoming clear that maintaining a nutritious diet plays an important and economical role in disease prevention as well as aiding children and all people live up to their physical and mental potential. Because of these great benefits to our society, I feel strongly that developing a better understanding of human nutrition and the nutritional status of our citizens should be a priority of our Nation.

As past chairman of the Subcommittee on Science, Research and Technology—and I observe the present chairman approaching now—I have participated in hearings concerning the role of the Federal Government in nutrition monitoring and related research for 7 years. This is the fifth year that the Subcommittee on Science, Research and Technology and the Subcommittee on Department Operations, Research, and Foreign Agriculture have held joint hearings on this subject. I am pleased that we have been joined also by the Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition in this effort to improve our national nutrition programs. This cooperation exemplifies the broad scope under which the nutrition field falls, and the type of coordination which we would like to encourage within our Federal agencies and departments.

I will ask unanimous consent to insert the remainder of my statement in the record and this point, I would like to ask the chairman of the subcommittee to take over the chair.

[The opening prepared statement of Mr. Brown follows:]

JUNE 25, 1985

CONG. GEORGE E. BROWN, JR.

OPENING REMARKS FOR HEARING ON H.R. 2436,

THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985

I am pleased to attend today's hearings on H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985. This is a revised version of legislation (H.R. 4684) introduced by Cong. McKay, Cong. Walgren, and myself last year.

Human nutrition is an expanding field, with much left to be explored and revealed. Despite our long-standing knowledge of severe nutritional deficiencies such as scurvy and others, our society has only recently begun to recognize the integral role proper nutrition plays in maintaining our national health. It is now becoming clear that maintaining a nutritious diet plays an important and economical role in disease prevention, as well as aiding children, and all people, live up to their physical and mental potential. Because of these great benefits to our society, I feel strongly that developing a better understanding of human nutrition and the nutritional status of our citizens should be a priority of our nation.

As past Chairman of the Subcommittee on Science, Research and Technology as well as past Chairman of the Subcommittee on Department Operations, Research, and Foreign Agriculture, I have participated in hearings concerning the role of the federal government in nutrition monitoring and related research for seven years. This is the fifth year that the Subcommittee on Science, Research and Technology and the Subcommittee on Department Operations, Research, and Foreign Agriculture have held joint hearings on this subject. I am pleased that the Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition, has joined these efforts to improve our national nutrition programs and is participating in today's hearings. This cooperation exemplifies the broad scope under which the nutrition field falls, and the type of coordination which we would like to encourage within our federal agencies and departments.

In the past, several agencies within our federal government have conducted nutrition related research to meet their individual needs, including the Department of Agriculture, the Department of Defense and the Department of Health and Human Services. Over the course of the last seven years of hearings, it has become clear that this research should be better coordinated. These hearings have revealed that there is a lack of and very real need for timely, objective data made available to policy makers. Studies conducted by various federal agencies have not been conducted in a manner which allows for comparision between various surveys, nor have the results of nutrition monitoring surveys been made available in a timely fashion, often being released years after the initial data was collected. The resulting lack of timely, objective data has resulted in the President or Congress reacting to hunger and malnutrition crises without the essential information needed to develop effective policies.

After completing the July, 1983, hearing which addressed "The Role of the Federal Government in Human Nutrition Research," Cong. McKay, Cong. Walgren and I concluded that there is a very real need for improving our nutrition monitoring and related research programs. The legislation we are studying today is an effort to address these shortcomings of our federal nutrition research and to improve coordination at the federal level. This legislation received well over a majority of votes when it was brought up under suspension last year.

I am pleased to see some new faces, and new interests being represented here today. I look forward to hearing your views regarding H.R. 2436, as well as working with all of you in these efforts to improve our federal nutrition programs.

STATEMENT OF HON. DOUG WALGREN, A U.S. REPRESENTATIVE FROM THE STATE OF PENNSYLVANIA

Mr. **Walgren**. Let me apologize for being somewhat late. It was all in the interest of nutrition. Let me say that I appreciate the interest of the number of Members that are joining us today in these hearings.

This is the fifth annual hearing on nutrition monitoring and research that has been held by this subcommittee together with the subcommittees of the Committee on Agriculture. Over this last period of time, we have attempted to encourage the development of a timely and comprehensive national nutrition monitoring system in pursuit of all the benefits that such a policy and an awareness could bring to our public.

I would like to ask unanimous consent to submit the balance of my opening statement for the record and also ask unanimous consent that television and other kinds of photos be allowed during the course of the hearing. Without any objection, that will be the order.

I would like to recognize other members for opening statements at this point. I recognize the gentleman from Florida, Mr. MacKay.

[The opening prepared statement of Mr. Walgren follows:]

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OPENING STATEMENT FOR
HONORABLE DOUG WALGREN (D-PA), CHAIRMAN
SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY
JUNE 25, 1985
H.R. 2436, NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985

THIS IS THE FIFTH ANNUAL HEARING ON NUTRITION MONITORING AND RESEARCH HELD BY THE SUBCOMMITTEE ON SCIENCE, RESEARCH, AND TECHNOLOGY AND SUBCOMMITTEES OF THE COMMITTEE ON AGRICULTURE. OVER THE PAST FIVE YEARS, THESE COMMITTEES HAVE ATTEMPTED TO STIMULATE THE DEVELOPMENT OF A TIMELY AND COMPREHENSIVE NATIONAL NUTRITION MONITORING SYSTEM WITHOUT A SPECIFIC CONGRESSIONAL DIRECTIVE.

CLEARLY SOME PROGRESS HAS BEEN REALIZED. THE GUIDE FOR THE FEDERAL ACTIVITIES HAS BEEN THE JOINT IMPLEMENTATION PLAN FOR A COMPREHENSIVE NUTRITION MONITORING SYSTEM SUBMITTED TO CONGRESS IN 1981 BY DHHS AND USDA. THAT PLAN INCLUDED TWO PRIMARY OBJECTIVES: "ACHIEVEMENT OF THE BEST POSSIBLE COORDINATION OF NHANES (NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY) AND NFCS (NATIONWIDE FOOD CONSUMPTION SURVEY), AND DEVELOPMENT OF A REPORTING SYSTEM TO TRANSLATE FINDINGS FROM NHANES, NFCS, AND OTHER SPECIALLY-DEVELOPED FEDERAL MONITORING EFFORTS INTO PERIODIC REPORTS TO CONGRESS."

UNFORTUNATELY, NEITHER OF THESE OBJECTIVES HAS BEEN ACHIEVED.

THE CONDUCT OF THE FIRST COORDINATED SURVEY WILL NOT TAKE PLACE IN 1987 AS PLANNED, DUE TO A REDUCED BUDGET REQUEST BY DHHS. THE FIRST REPORT OF THE NUTRITIONAL STATUS OF THE POPULATION IS ALREADY SEVEN MONTHS LATE, DUE TO A TWO YEAR DELAY IN THE APPOINTMENT OF THE COMMITTEE RESPONSIBLE FOR THE REPORT.

IN ADDITION, ATTENTION HAS BEEN FOCUSED MAINLY ON NHANES AND NFCS RATHER THAN ON THE INFRASTRUCTURE NECESSARY TO SUPPORT A COMPREHENSIVE SYSTEM SUCH AS: RESEARCH TO IMPROVE METHODS, DATA BASE EXPANSION AND MANAGEMENT, DEVELOPMENT OF NETWORKS FOR DATA COLLECTION AND DISSEMINATION, AND ESTABLISHMENT OF PARTNERSHIPS WITH SCIENTIFIC COMMUNITIES AND THE PRIVATE SECTOR. THESE COMPONENTS MUST BE ADDRESSED IN CONCERT WITH NUTRITION SURVEYS TO INSURE THAT OUR INVESTMENTS PRODUCE THE BEST POSSIBLE DATA.

ONE OF THE MAJOR PURPOSES OF H.R. 2436 IS TO MAKE MORE EFFECTIVE USE OF FEDERAL AND STATE EXPENDITURES FOR NUTRITION MONITORING AND TO IMPROVE THE PERFORMANCE AND BENEFITS OF CURRENT ACTIVITIES. A SECOND MAJOR PURPOSE IS TO FACILITATE THE ESTABLISHMENT OF A CONTINUOUS SCIENTIFIC BASIS FOR DECISIONS CONCERNING NUTRITION RESEARCH, EDUCATION, AND SERVICES.

THUS, THE OBJECTIVE OF OUR HEARING TODAY IS TO DETERMINE HOW WELL H.R. 2436 MEETS THOSE GOALS AND WHAT FINE TUNING CAN BE DONE TO REFLECT THE NEEDS AND PERSPECTIVES OF THE VARIOUS ORGANIZATIONS REPRESENTED BY OUR WITNESSES TODAY. A SIMILAR BILL WAS CON-

SIDERED LAST YEAR AND OPPOSED BY THE ADMINISTRATION PRINCIPALLY BECAUSE OF THE ORGANIZATIONAL STRUCTURE. CONGRESSMAN GEORGE E. BROWN, JR. AND MYSELF ASKED THE SECRETARIES OF DHHS AND USDA TO ASSIST IN REDRAFTING THE BILL BY SUGGESTING ALTERNATIVE APPROACHES TO ESTABLISH NECESSARY FEDERAL COORDINATION, FOCUS, AND LONG-RANGE PROGRESS IN NUTRITION MONITORING. OUR REQUEST WAS NOT FULFILLED ON THE BASIS OF AN ADMINISTRATION POLICY PROHIBITING COMMENT ON DRAFT LEGISLATION. THUS, IF THE ORGANIZATIONAL STRUCTURE PROPOSED IN H.R. 2436 IS NOT ACCEPTABLE, WE TRUST THEY WILL BE PREPARED TO OFFER ALTERNATIVES DURING TESTIMONY TODAY.

THE ADMINISTRATION HAS HAD MORE THAN ADEQUATE TIME TO DEMONSTRATE THEIR ABILITY TO ACCOMPLISH THE OBJECTIVES OF H.R. 2436. IN MY VIEW, THE ISSUE IS NO LONGER WHETHER OR NOT A CONGRESSIONAL MANDATE IS NEEDED, BUT HOW TO INSURE THE UNREALIZED PROMISES OF ACTION WILL BE FULFILLED.

STATEMENT OF HON. BUDDY MacKAY, A U.S. REPRESENTATIVE FROM THE STATE OF FLORIDA

Mr. MacKay. Mr. Chairman, I would like to express my appreciation for your allowing me to participate in this hearing. I would like to file my opening statement for the record, but I would like to read, at this point, two excerpts from a report or an assessment issued by the National Agricultural Research and Extension Users Advisory Board on February 20, 1985. I read this because I think this sums up what a number of us feel and sums it up very succinctly. I am quoting two paragraphs from that assessment.

> Specific steps should be taken to coordinate the more than nine ongoing research studies under the auspices of four agencies. Known market research techniques should be used to ensure comparability of results for interpretation. HANES and the Nationwide Food Consumption Survey should be done within the same year to extend the information base. A research coordination plan should be drawn up which outlines research subsets, study timeframe, and release dates for data. These studies should be the basis for future nutrition research prioritization.
>
> We are especially concerned about the extreme time lag between the completion of some of these preceding surveys and the public release of results. For example, although the HANES data were collected in the midseventies, publication did not occur for 6 to 7 years. HANES II is now in progress. When will its results be available? To be useful and to justify funding, nutrition data must be made available promptly. 6 years is simply unacceptable.

Those statements, it seems to me, Mr. Chairman and members of the committee, summarize what this committee has been trying to say. Many of us feel that in an ideal world, legislation would not be necessary to require agencies to coordinate their efforts. This is less than an ideal world, and after the 7 years of effort by these committees, it seems to me clear that the plan that has been put forth in this proposed statute is a modest plan, one that does not overreact, and one that would assure that those results that are being increasingly called for by users could be brought about.

Thank you very much.

[The opening prepared statement of Mr. MacKay follows:]

OPENING STATEMENT FOR
HONORABLE BUDDY MACKAY (D-FL)
H.R. 2436, NATIONAL NUTRITION MONITORING AND
RELATED RESEARCH ACT OF 1985
June 25, ±985

MR. CHAIRMAN, I WISH TO CONGRATULATE YOU FOR HOLDING THIS HEARING PROMPTLY AFTER THE INTRODUCTION OF H.R. 2436, THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985. I ALSO APPRECIATE THE OPPORTUNITY TO PARTICIPATE IN THIS HEARING WHILE ON LEAVE FROM THE SCIENCE AND TECHNOLOGY COMMITTEE TO THE BUDGET COMMITTEE.

SINCE 1977, THE CONGRESS HAS CONTINUALLY CALLED FOR MORE TIMELY NUTRITIONAL STATUS INFORMATION AND FOR THE DEVELOPMENT OF COST-EFFECTIVE TECHNOLOGIES FOR OBTAINING THAT INFORMATION. IN SPITE OF THE ANNUAL HEARINGS HELD BY THESE COMMITTEES, WE HAVE NO GREATER ASSURANCE NOW THAN WE DID IN 1977 THAT A TIMELY AND COMPREHENSIVE NATIONAL NUTRITION MONITORING SYSTEM WILL BE IN PLACE BY 1990.

THIS COMMITTEE IS NOT THE ONLY GROUP CALLING FOR CHANGE. IN ITS REPORT TO THE PRESIDENT AND CONGRESS ON FEBRUARY 20, 1985, THE NATIONAL AGRICULTURAL RESEARCH AND EXTENSION USERS ADVISORY BOARD STATED:

"SPECIFIC STEPS SHOULD BE TAKEN TO COORDINATE THE MORE THAN NINE ONGOING RESEARCH STUDIES UNDER THE AUSPICES OF FOUR AGENCIES. KNOWN

MARKET RESEARCH TECHNIQUES SHOULD BE USED TO ENSURE COMPARABILITY OF RESULTS FOR INTERPRETATION. HANES AND THE NATIONWIDE FOOD CONSUMPTION SURVEY SHOULD BE DONE WITHIN THE SAME YEAR TO EXTEND THE INFORMATION BASE. A RESEARCH COORDINATION PLAN SHOULD BE DRAWN UP WHICH OUTLINES RESEARCH SUBSETS, STUDY TIMEFRAME, AND RELEASE DATES FOR DATA. THESE STUDIES SHOULD BE THE BASIS OF FUTURE NUTRITION RESEARCH PRIORITIZATION."

"WE ARE ESPECIALLY CONCERNED ABOUT THE EXTREME TIME LAG BETWEEN THE COMPLETION OF SOME OF THESE PRECEDING SURVEYS AND THE PUBLIC RELEASE OF RESULTS. FOR EXAMPLE, ALTHOUGH HANES DATA WERE COLLECTED IN THE MIDSEVENTIES, PUBLICATION DID NOT OCCUR FOR 6 TO 7 YEARS. HANES II IS NOW IN PROGRESS. WHEN WILL ITS RESULTS BE AVAILABLE? TO BE USEFUL AND TO JUSTIFY FUNDING, NUTRITION DATA MUST BE MADE AVAILABLE PROMPTLY - 6 YEARS IS SIMPLY UNACCEPTABLE."

H.R.2436 WAS DESIGNED TO ADDRESS THOSE HIGH-PRIORITY NEEDS AND THUS MAKE MORE EFFECTIVE USE OF CURRENT FEDERAL AND STATE EXPENDITURES FOR NUTRITION MONITORING. IN FACT, THE PROPER IMPLEMENTATION OF H.R.2436

COULD SERVE AS A MUCH NEEDED HEALTH PROMOTION AND DISEASE PREVENTION TOOL AND, IN THE LONG-TERM, ALSO REDUCE FEDERAL, STATE, AND PUBLIC EXPENDITURES FOR HEALTH CARE.

THE NEED FOR H.R. 2436 IS CLEAR. MECHANISMS FOR ACCOMPLISHING THE OBJECTIVES OF THE BILL AND STIMULATING A FEDERAL COMMITMENT TO IMPLEMENT THE OBJECTIVES APPEAR TO BE LESS CLEAR. H.R. 2436 REFLECTS THE RECOMMENDATIONS OF NUMEROUS GROUPS AND INDIVIDUALS THAT RESPONDED TO OUR REQUEST FOR ASSISTANCE IN REDRAFTING THE 1984 BILL. I WILL BE INTERESTED TO LEARN FROM OUR DISTINGUISHED WITNESSES TODAY HOW H.R. 2436 CAN BE FURTHER IMPROVED AS IT MOVES THROUGH THE LEGISLATIVE PROCESS FOR CONSIDERATION BY THE HOUSE.

Mr. **Walgren**. I thank the gentleman.

Are there other members with opening statements? I would particularly recognize that we have been joined by the chairman of the Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition from the Committee on Agriculture, the gentleman from California, Mr. Panetta.

STATEMENT OF HON. LEON PANETTA, A U.S. REPRESENTATIVE FROM THE STATE OF CALIFORNIA

Mr. **Panetta**. Thank you very much, Mr. Chairman.

I appreciate the opportunity to join with you in these hearings. We have three subcommittees that are meeting today for the purpose of hearing testimony on H.R. 2436. In addition to advancing our knowledge about the dietary patterns and nutritional health of Americans, the bill has very important implications for the major Federal nutrition programs that we are involved with, such as the Food Stamp Program, the Temporary Emergency Food Assistance Program, WIC, and a number of other child nutrition programs.

As chairman of the Agriculture Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition, I think the most important thing I have become aware of is the limited amount of up-to-date data that we have available on the general nutritional status of some segments of the U.S. population. For example, we have repeated numbers of physicians and public health workers at our hearings around the country who have told us that hunger and malnutrition are real and expanding problems in their localities. However, our most recent national nutrition survey data that should shed light on these problems are dated and are very limited in scope.

We really need more information on the effect of income level and of participation in Federal nutrition programs on food intake and the nutritional health of Americans. Those of us who are working in public policy also need better, more functional definitions of terms such as hunger, malnutrition, and even nutrition monitoring. The bill tries to address many of the issues that we are discussing.

The nutritional health of all Americans, including the young, the elderly, and the economically deprived, is very important and should be considered seriously now, not at some nebulous time in the future. We have already marked up a bill, the Hunger Relief Act of 1985, which is part of the farm bill. I think it puts us on the right track as far as nutrition monitoring of our most vulnerable citizens is concerned, but, very frankly, it doesn't do enough as far as a comprehensive system of nutrition monitoring. That is really the type that is provided for in H.R. 2436.

In my view, there needs to be a congressional mandate of this function. Otherwise, we are going to continue to see the responsibility for the nutrition monitoring being dispersed within the administration and very little emphasis given to the kind of information we need.

Therefore, I am looking forward to constructive comments from the various experts and economists and public health workers on this issue. I hope that, as a consequence of it, we may indeed be able to move some firm legislation in this area.

I also, Mr. Chairman, want to include a statement by Berkley Bedell, the chairman of the Subcommittee on Department Operations, Research, and Foreign Agriculture.

Mr. **Walgren**. Without objection, so ordered.

[The opening prepared statements of Mr. Panetta and Mr. Bedell follow:]

OPENING COMMENTS OF THE HONORABLE LEON PANETTA
ON HEARING ON H.R. 2436
JUNE 25, 1985

This afternoon three Subcommittees are meeting to hear testimony on H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985. In addition to advancing our knowledge about the dietary patterns and nutritional health of Americans, this bill has important implications for major Federal nutrition programs, such as the Food Stamp Program, the Temporary Emergency Food Assistance Program, WIC, other child nutrition programs and the Expanded Food and Nutrition Education Program.

As Chairman of the Agriculture Subcommittee on Domestic Marketing, Consumer Relations, and Nutrition, I have become acutely aware of the limited amount of up-to-date data available on the nutritional status of some segments of the U.S. population. For example, repeatedly physicians and public health workers at our hearings have told us that hunger and malnutrition are real and expanding problems in their localities. However, our most recent national nutrition survey data that should shed light on these problems are dated or very limited in scope.

We really need more information on the effect of income level and of participation in Federal nutrition programs on the food intake and nutritional health of Americans. Those of us working in public policy also need better, more functional definitions of terms such as hunger, malnutrition and even nutrition monitoring. This bill addresses many of these issues.

The nutritional health of all Americans, including the young, the elderly and the economically deprived, is important and should be considered seriously now, not at some nebulous time in the future. On June 13, our Subcommittee marked up H.R. 2422, the "Food Stamp and Commodity Distribution Improvement Act of 1985," and included a provision that puts us on the right track as far as nutrition monitoring of our most vulnerable citizens is concerned. Most importantly, it requires USDA, when conducting a continuing survey of food intakes of individuals and the nationwide food consumption survey, to include a sample that is representative of low-income individuals and, to the extent practicable, to collect information on food purchases and other household expenditures.

However, H.R. 2422 does not provide a comprehensive system of nutrition monitoring. It needs to be complemented by additional efforts of the type in H.R. 2436. And in my view there needs to be a Congressional mandate of this function or there will be no firm assurances that it will be carried out.

Today, I hope that we will hear constructive comments from nutrition experts, economists, public health workers and representatives of the food industry on the most cost-effective ways of obtaining the nutrition information we need to strengthen Federal food assistance and education programs. I would like to thank Mr. Bedell and Mr. Walgren for their cooperation in setting up this joint hearing.

OPENING COMMENTS FOR BERKLEY BEDELL

JUNE 25, 1985

HEARING ON H.R. 2436

USDA has been involved in nutrition research since its inception and has conducted national nutrition surveys regularly during the last 50 years. Thus it is with pleasure that the Agriculture Subcommittee on Department Operations, Research, and Foreign Agriculture is participating in this hearing today on H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985.

Data from nutrition monitoring surveys are valuable not only to USDA-run Federal nutrition programs such as the Food Stamp Program, but also to a variety of other agriculture programs. The Agricultural Marketing Service, Cooperative Extension Service, and the Food Safety Inspection Service of USDA and a number of agricultural producer groups depend on the Nationwide Food Consumption Survey for data on food consumption patterns of Americans.

Today I hope that our witnesses from the food industry, USDA and land grant universities can tell us how they currently use information generated through nutrition monitoring. My Subcommittee is particularly eager to hear their construtive comments on H.R. 2436. I want to thank Mr. Panetta and Mr. Walgren for their cooperation in setting up this joint hearing.

Mr. WALGREN. Are there other Members with opening statements? Let me recognize Mr. Emerson.

STATEMENT OF HON. BILL EMERSON, A U.S. REPRESENTATIVE FROM THE STATE OF MISSOURI

Mr. EMERSON. Thank you, Mr. Chairman.

I am pleased to participate in this hearing concerning H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985. The Nutrition Subcommittee is one of the three subcommittees participating in this hearing, so we can see that this bill has a broad impact on the nutrition community and Federal agencies responsible for both nutrition monitoring and the subsequent use of the data collected and committees of the Congress. I am pleased to see that the witnesses come from several of these groups involved in nutrition issues.

The issue of assessing the nutritional status of Americans is an important one. In fact, the President's Task Force on Food Assistance recommended several steps to improve nutritional monitoring. The task force found that the two existing national surveys serve as the foundation for making statements concerning the nutritional status of Americans, the Health and Nutrition Examination Survey and the National Food Consumption Survey. These are national surveys of a sample that is representative of the entire population.

However, lack of up-to-date data has made it impossible to assess whether the current nutritional status of the population has worsened over the last few years. The only source for continuous information regarding nutritional status is the Centers for Disease Control which operate a pediatric surveillance system and a pregnant women's surveillance system. These systems have several deficiencies. They do not cover all States; the only information collected covers people served by clinics, and methods of data collection vary among the States.

To improve the availability of current data, the President's task force recommended the following steps:

One, current information from the Health and Nutrition Examination Survey and Nationwide Food Consumption Survey is very valuable, and ways of improving these surveys should be examined.

Two, States currently not participating in the Centers for Disease Control surveillance system for children and pregnant women should be encouraged to provide uniform data.

Three, the possibility of developing new measurement tools based on the Health and Nutrition Examination Survey, the Nationwide Food Consumption Survey, and the Centers for Disease Control surveillance system should be explored.

Four, if alternative methods of making smaller, intermittent, and up-to-date surveys can successfully be developed, then the feasibility of instituting, for example, smaller biennial surveys of nutritional status might prove desirable and feasible. Such surveys could complement the more complete and larger national surveys.

I will be interested in hearing from the witnesses as to whether the bill before us will achieve these goals and recommendations of the President's task force. I am particularly anxious to hear from the Federal agencies as to how the management system described in H.R. 2436 would work and how the selection of one agency, Health and Human Services, over Agriculture as the lead agency in nutrition monitoring will affect parties interested in and using the data collected through nutrition surveys.

As some of you may be aware, I recently offered an amendment to Chairman Panetta's food stamp reauthorization bill on behalf of the chairman and myself. This amendment requires the Secretary of Agriculture to: First, in conducting the Department of Agriculture's Continuing Survey of Food Intakes of Individuals and any Nationwide Food Consumption Survey to include a sample that is representative of low-income individuals and, to the extent practicable, the collection of information of food and other household expenditures by such individuals; second, to the extent practicable, continue to maintain the nutrient data base established by the Department of Agriculture; and, third, to encourage research by the public and private sectors on effective standards, methodologies, and technologies for accurate assessment of the nutritional and dietary status of individuals.

Thank you, Mr. Chairman, and I look forward to hearing the testimony on this important issue.

Mr. Walgren. Thank you, Mr. Emerson.

The Chair recognizes the ranking minority of the Science, Research and Technology Subcommittee of the Committee on Science and Technology, Mr. Boehlert.

STATEMENT OF HON. SHERWOOD L. BOEHLERT, A U.S. REPRESENTATIVE FROM THE STATE OF NEW YORK

Mr. Boehlert. Thank you, Mr. Chairman.

I am encouraged to have two subcommittees from the Committee on Agriculture join SRT today to review with our distinguished witnesses H.R. 2436, the National Nutrition Monitoring Research Act of 1985. At the outset, I must admit I have a bias; I am a cosponsor of H.R. 2436. As I look at the list of fellow cosponsors, I seem to be the lone ranger on this side of the podium. I am hopeful that during these proceedings, we will be further enlightened and there will be a tendency on the part of some of my colleagues on this side to cosponsor this important legislation.

As many will recall, the predecessor in the 98th Congress was H.R. 4684. Though it passed out of the committee and was given floor consideration, it was under suspension of the rules and more than one-third opposed it. Therefore, it did not pass.

I supported H.R. 4684 because I believe very strongly that the Federal Government has an obligation and a role to maintain and promote a coordinated nutritional monitoring effort in the United States. This is not to say that HHS and USDA are not meeting these obligations. However, there do appear to be areas for further improvement.

In addition, criticisms which last year's bill received deserve the attention of the Members and witnesses here today, particularly the concerns which were raised about the structure of the directorship which in H.R. 2436 is an intergovernmental science board, the proper role of the Department of Defense, the involvement of the

National Science Foundation in developing nutritional methods and how a new recommendation for coordinating nutrition policy will overcome the fiscal restraints agencies are facing.

I look forward to the contributions our distinguished witnesses will make and look forward to the opportunity to work with members of this subcommittee as well as our colleagues on the Committee on Agriculture.

Thank you, Mr. Chairman.

Mr. WALGREN. Thank you, Mr. Boehlert.

Are there other comments at this point in the proceeding that members would like to make?

[No response.]

Mr. WALGREN. With that, let me call the first panel. If you would come forward: Dr. Reynaldo Martorell, associate professor at the Food Research Institute at Stanford University, representing the Food and Nutrition Board of the National Academy of Sciences; Dr. John LaRosa, professor of medical and health care services at George Washington University, representing the American Heart Association; and Dr. Stanley Johnson of the Center for Agricultural & Rural Development of Iowa State University.

Let me say at the outset that your written statements will be made part of the record. They will be reproduced in full and become part of the ever expanding resource base of information for our Nation's history and even the careful reading by members and staff to work with the points that you would like to raise. That means that we would like to ask you to focus on the points that you really believe deserve underscoring in a relatively short period of time, and I would encourage you to summarize or outline in whatever way you feel most comfortable but in 5 or 7 minutes or so so that there is some opportunity for the number of members who are here to explore some of the points that you might raise. We do have a long witness list this afternoon, and in consideration of the time that it is going to take us to get through that, if you would try to be sensitive to that outline.

With that, let us start with Dr. Martorell, and we appreciate your being here. We appreciate your being a resource to the committee. Please proceed.

STATEMENT OF DR. REYNALDO MARTORELL, ASSOCIATE PROFESSOR, FOOD RESEARCH INSTITUTE, STANFORD UNIVERSITY AND REPRESENTING THE NATIONAL RESEARCH COUNCIL, FOOD AND NUTRITION BOARD, NATIONAL ACADEMY OF SCIENCES

Dr. MARTORELL. Thank you, Mr. Chairman.

Thank you for inviting the National Academy of Sciences to discuss some of its recent work relevant to your deliberations on nutrition monitoring. My name is Reynaldo Martorell. I am an associate professor at the Food Research Institute at Stanford University and a member of the Food and Nutrition Board of the Commission on Life Sciences at the National Research Council.

The National Research Council is the operating arm of the National Academy of Sciences. It includes eight commissions and major offices and boards that respond to requests from the Federal

Government to conduct studies on matters of critical national importance and provide reports through the use of expert volunteers from the national and international scientific community.

Since 1981, the National Research Council has published three reports which have made recommendations relating to nutrition monitoring in the U.S. population. The three reports are: First, "Assessing Changing Food Consumption Patterns;" second, "Diet, Nutrition, and Cancer;" and, third, "National Survey Data on Food Consumption, Uses, and Implications." A copy of the executive summaries and lists of members of these committees are appended to my remarks. With your approval, I would like to offer these for inclusion in your hearing record.

Mr. WALGREN. Without objection, so ordered.

Dr. MARTORELL. Thank you.

In addition, the Food and Nutrition Board held a symposium on the topic "What is America Eating?" in December 1984, an agenda for which is included with my remarks and the proceedings of which will be published in the near future.

The three National Research Council reports I have mentioned have dealt with many aspects of nutrition monitoring and have made a number of recommendations, some of which I will summarize briefly. My written testimony provides more detail on each of these reports and the basis of these recommendations.

Our committees have recommended that the current system of two separate national surveys—the National Food Consumption Survey and the Nationwide Health and Nutrition Examination Survey—should be continued and that the two surveys should be linked through a common methodology. An overall continuous data collection processing and reporting system should be developed and implemented. Identical methodologies should be used for the collection of dietary intake data in the Nationwide Food Consumption Survey and the National Health and Nutrition Examination Survey.

Improvements in dietary methodology and food consumption data bases are also needed. The data on nutrient composition of foods should be improved. A 5-year timeframe should be used for the collection of survey data with a stratified probability sample. The analysis and interpretation should be updated each year with data accumulated for the preceding 5 years so that a moving 5-year average would be developed.

Special studies of high-risk population groups should be undertaken. Data bases and methodologies for assessing human exposure to foods should be improved, with attention to dietary constituents that may alter cancer risk.

To summarize, several recent National Council reports have focused on methods of nutrition monitoring and have recognized the need for continuous, distinct surveys carried out by the U.S. Department of Agriculture and the Department of Health and Human Services. They have recommended improvements in the methods of dietary surveys and the development of a system to coordinate these surveys with modifications in the study design to permit the use of data from these two surveys together.

These reports also recognize the need for further effort to examine the health impact of dietary intake and the relationship of diet to cancer. The Food and Nutrition Board continues to maintain an active interest in nutrition monitoring and at its next meeting in July will be discussing the feasibility and desirability of developing methodologies for monitoring the nutritional status of certain high-risk groups in the United States.

On page 13 of the proposed bill, H.R. 2436, the minimum guidelines for a comprehensive nutrition monitoring plan are set forth. These guidelines address many of the recommendations which were discussed in the National Research Council reports described here. In particular, the bill addresses the need for improved methodologies, uniform standards, and continuous survey designs which are discussed in more detail in the National Research Council reports.

Mr. Chairman, this ends my prepared remarks, and I will be happy to respond to questions. Thank you.

[The prepared statement of Dr. Martorell follows:]

TESTIMONY FOR THE HOUSE COMMITTEE ON SCIENCE

STATEMENT OF DR. REYNALDO MARTORELL

NATIONAL RESEARCH COUNCIL

FOOD AND NUTRITION BOARD

NATIONAL ACADEMY OF SCIENCES

Mr. Chairman. Thank you for inviting the National Academy of Sciences to attend these important hearings and discuss some of its recent work relevant to your deliberations on nutrition monitoring. My name is Reynaldo Martorell. I am an associate professor at the Food Research Institute at Stanford University, and a member of the Food and Nutrition Board of the Commission on Life Sciences at the National Research Council. The National Research Council is the operating arm of the National Academy of Sciences. It includes eight commissions and major offices and boards that respond to requests from the federal government to conduct studies on matters of critical national importance and provide reports through the use of expert volunteers from the national and international scientific community.

Since 1981, the National Research Council has published three reports which have made recommendations relating to nutrition monitoring in the U.S. population. In 1981, the report "Assessing Changing Food Consumption Patterns" was released. This study was conducted under a contract with the Food and Drug Administration to study sources of data on food consumption and to suggest a system for integrating these data with nutrition and health status information. In 1983, a report, "Diet, Nutrition, and Cancer," was released which includes recommendations for epidemiologic research needed in order to monitor and study nutrition-related cancer problems. Last year, a report entitled "National Survey Data on Food Consumption" was completed which dealt with the utilization of food consumption data from the Nationwide Food Consumption Survey, conducted by the United States Department of Agriculture, and the dietary intake portion of the National Health and Nutrition Examination Survey, conducted by The Department of Health and Human Services. The purpose of this study was to make recommendations on survey design that would facilitate wider application of the survey data and the integration of information from these two vital sources. A copy of the executive summaries and lists of members of these committees are appended to my remarks. With your approval, I would like to offer these for inclusion in your hearing record.

In addition, the Food and Nutrition Board held a Symposium on the topic "What is America Eating" in December 1984. The purpose of that meeting was to discuss the trends in food consumption in the U.S. over the last two decades and the implications for nutritional status and health. The proceedings for that meeting will be available in the near future. A copy of the program is appended to my remarks.

I appreciate the opportunity to come before your distinguished committee to discuss briefly the results of these three studies.

The first of these reports, "Assessing Changing Food Consumption Patterns," recommended that an ongoing system be developed and implemented by the federal agencies to collect and analyze data on food consumption and the health implications of food consumption. Three types of data collection were recommended. First, the report recommended a continuous data collection procedure with processing and review of food intake data using a stratified probability sample of the United States population. Second, the report recommended that health status indicator data be collected from currently available sources and collated for population strata analogous to those from which the dietary information is derived. Third, an ongoing examination of available aggregate data from commercial and governmental sources was recommended to provide data on the disappearance of food from markets.

As outlined in the report, the goals of a data collection system of this kind would be to monitor the nutritional adequacy of food practices and food supply of the general population and to monitor general health trends as they are potentially related to food usage. Sectors of the population should be identified in which risks related to inadequate food intake may be high. Data should also be obtained for testing probable effects of fortification programs, of nutritional standards or guidelines, and to meet similar federal needs. These same data can be used to monitor potential risks associated with selected food components or contaminants. These steps would also provide a sound data base for studies designed to examine relationships between food intake and chronic diseases in segments of the United States population.

The study suggested that a five-year time frame be used for the collection of data using a stratified probability sample, and that 20% of the data be collected and processed each year resulting in a continuous ongoing survey process. It was recommended that the analysis and interpretation be updated each year with data accumulated for the preceding five years so that a moving five-year average would be developed. One advantage of this five-year averaging approach would be that it would permit the data to be collected and analyzed with 20% subsamples collected and analyzed each year in order to provide an early warning of nutrition-related problems.

In order to develop data on health status indicators in relation to dietary intake, it was recommended that existing health data bases be used in conjunction with the food intake data and that special studies of population groups with apparently abnormal health status indicators should be undertaken to investigate food consumption in relatively unhealthy populations.

The 1982 National Research Council report, "Diet, Nutrition and Cancer," included a second volume published in 1983 on directions for research which addresses several issues that are pertinent to problems of nutrition monitoring. This volume identified as a high priority area for future research the improvement of data bases and methodologies for assessing human exposure to foods and dietary constituents that may alter cancer risk. It also concluded that better data are needed including regular and more frequent surveys to obtain better information on long-term trends in the composition of average national diets. The committee also identified a need for improved methods for the collection of data on dietary intake and for validation and improvement of the food composition data bases. More regular cross-sectional food consumption surveys of improved quality should be based on representative samples of the United States population using surveys such as the National Health and Nutrition Examination Survey. These data could then be correlated with trends in cancer incidence. The report also noted the possibility of using information from repeated measurements of dietary intake in cohort or prospective studies to analyze trends in cancer incidence in relation to dietary intake. This longitudinal approach would provide information not only on changing dietary patterns over a lifetime but also on the reproducibility of dietary assessment methods.

The most recent National Research Council report to address nutrition monitoring methods, the report of the Coordinating Committee on Utilization of Food Consumption Surveys, reviewed a wide variety of uses of the Nationwide Food Consumption Survey and the dietary intake portion of the National Health and Nutrition Examination Survey, and concluded that the current system of two separate national surveys should be continued but that the two surveys should be linked through a common methodology. It was recommended that identical methodologies for the collection of dietary intake data should be used in the Nationwide Food Consumption Survey and National Health and Nutrition Examination Survey studies and that compatible sampling frames and identical descriptors for demographic characteristics of the two populations should be used.

This study, which was sponsored jointly by the United States Department of Agriculture and Health and Human Services, included a workshop for discussion of uses of national survey data on food consumption. The workshop, held at the National Academy of Sciences, was attended by representatives of federal agencies and scientists who use the Nationwide Food Consumption Survey and National Health and Nutrition Examination Survey data; from academe, industry, and private organizations; as well as other individuals with an interest in the utilization of these data.

The report concluded that both the Nationwide Food Consumption Survey and National Health and Nutrition Examination Survey should be redesigned as continuous surveys with data collection from the total samples distributed over a number of years, and that the data should be accumulated over various intervals. A continuous data collection, processing, and reporting system was recommended and the continuation of the Household Food Use component of the Nationwide Food Consumption Survey was recommended on a regular but intermittent basis.

Specific recommendations for improvements in the dietary methodology and food consumption data bases were also made. It was recommended that information data be collected on dietary supplements such as vitamins and on alcoholic beverage consumption, and that standardized coding should be used for foods in all federally-sponsored research. Several improvements in the United States Department of Agriculture's data base on nutrient composition of specific foods were also discussed.

In addressing the problem of the utilization of existing survey data, the committee recognized that the coordination of the design and data reporting of the two surveys requires that the separate and distinct uses of the two data sets "should not be compromised by survey modifications intended solely to foster increased nationwide food and nutrition monitoring capabilities." For this reason, the committee selected among many suggestions offered by various data users those that, in its judgment, would not result in overall compromises in methodology.

These recent National Research Council reports have all given considerable attention to methods of nutrition monitoring and have recognized the need for continuous distinct surveys carried out by the United States Department of Agriculture and Health and Human Services. Recommendations have been made for improvements in methods of dietary surveys and for a system to coordinate these surveys with modifications to the study designs to permit the joint use of the data. The need for further effort to examine the health impact of dietary intake and the relationship of diet to cancer has also been recognized. In its next meeting, the Food and Nutrition Board will be discussing a possible study to develop methodologies to improve nutrition monitoring in high-risk groups.

The minimum guidelines for a comprehensive nutrition monitoring plan are set forth on page 13 of the bill HR 2436. These guidelines address many of the recommendations which were discussed in the National Research Council reports described here. In particular, the bill addresses the need for improved methodologies, uniform standards and continuous survey designs which are discussed in detail in the National Research Council reports.

Mr. Chairman, this ends my prepared remarks and I will be happy to respond to any questions that you may have.

National Survey Data on Food Consumption:

Uses and Recommendations

Coordinating Committee on Evaluation of Food Consumption Surveys

Food and Nutrition Board

Commission on Life Sciences

National Research Council

National Academy Press

Washington, D.C. 1984

COORDINATING COMMITTEE ON EVALUATION OF FOOD CONSUMPTION SURVEYS

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EXECUTIVE SUMMARY

In response to a request of the Human Nutrition Information Service of the U.S. Department of Agriculture, a committee was established under the auspices of the Food and Nutrition Board of the National Research Council's Commission on Life Sciences to review the uses of the Nationwide Food Consumption Surveys (NFCS) and make recommendations to facilitate wider application of the resulting survey data. The Committee also reviewed and made recommendations regarding the National Health and Nutrition Examination Survey (NHANES), a project of the National Center for Health Statistics of the Department of Health and Human Services (DHHS). This report, to those responsible for the surveys, contains the Committee's findings and recommendations.

- This report records a wide variety of survey data uses. The surveys continue to be important to a multiplicity of users in government, the academic community, and industry. They cannot at present be merged or replaced by one survey. The Committee concludes that the present system of two separate national surveys should continue.

- Depending on user needs, either NFCS or NHANES data are used. Each survey data base has distinct and important purposes of its own. In some instances, both data bases must be used together. For these purposes the present limited overlap of data from the two surveys contributes an important set of data points for data linkage between survey data bases. The Committee recommends that the two surveys continue to collect dietary intake data but that a common identical methodologic core in both surveys be developed and implemented. This should include both inclusion of an identical component of dietary intake data collection method and the same data base on the composition of foods.

- Furthermore, the Committee recommends that the two surveys be better linked through compatible sampling and common population descriptors.

- The Committee believes that the NFCS Individual Dietary Intake component and the NHANES should be redesigned as continuous survey processes with continuous data reporting to ensure timely data release and reporting. The Household Food Use component of the NFCS should continue on a regular, intermittent basis, unless future study demonstrates that some other design (e.g., continuous) is more advantageous.

- In this report, the Committee recommends a series of technical improvements for implementation over both the shorter and the longer term, some of which will depend on the results of further research. The Committee believes one technical point to be particularly important, namely that the NFCS should continue to collect replicated data on food consumption and dietary intake of individuals. Because of the need for statistical information on intraindividual variability, resources should be committed to maintaining, at a minimum, NFCS collection of 3 data-days of individual intake from a representative sample of the U.S. population.

- The Committee recommends a continuous evaluation process for the updating of design and methods for the surveys. In Appendix A the Committee suggests a list of questions that should be addressed for each priority use to ensure that the surveys provide the prerequisite specificity and reliability of information for that use.

OVERVIEW AND SUMMARY RECOMMENDATIONS

In response to a request from the Human Nutrition Information Service of the U.S. Department of Agriculture (USDA), a Coordinating Committee on Evaluation of Food Consumption Surveys was established under the auspices of the Food and Nutrition Board (FNB) in the National Research Council's Commission on Life Sciences to review ways in which data from the Nationwide Food Consumption Survey (NFCS) are used and to make recommendations on survey design that would facilitate wider application of survey data. Within the framework of the original request, the Committee incorporated into its study a review of and recommendations for the dietary component of the National Health and Nutrition Examination Survey (NHANES), a project of the National Center for Health Statistics of the Department of Health and Human Services (DHHS). After developing and conducting a workshop and symposium, whose participants were interested current and potential users of the survey data, the Committee evaluated the information obtained therefrom and identified specific user needs. This report, to those responsible for the surveys, contains the Committee's findings and recommendations.

SURVEYS: BACKGROUND

The 1977-1978 NFCS sample was approximately 15,000 households and more than 30,000 individuals. Information was obtained on the kind, quantity, and monetary value of foods consumed by the U.S. population and representative groups and on various household characteristics. The NFCS provides data needed to estimate the amounts and variability of food and nutrients in U.S. household and individual diets and to estimate dietary adequacy. Repeated surveys provide data that permit estimates of changes in the amounts of food and nutrients in U.S. diets and measurement of trends in dietary adequacy.

In contrast, the 1976-1980 NHANES, a survey of clinical and nutritional condition involving more than 20,000 individuals, provided data needed to estimate the prevalence of physical states or disease conditions in the U.S. population -- e.g., normative or descriptive data -- and biochemical data that serve as descriptors of biochemical, nutritional, and, perhaps indirectly, physiologic status. Successive surveys permit the repeated measurements needed to monitor changes in health and in the biochemical aspects of nutritional status over time.

IDENTIFICATION OF CURRENT AND POTENTIAL USES AND USER NEEDS

A major finding resulting from the workshop and symposium efforts was identification of a wide variety of uses for the survey data. Clearly, the NFCS data are used for foodand nutrition-related issues and the NHANES data are used for nutritionand health-related issues. However, the uses for these data go far beyond traditional food and nutrition questions. For example, the survey data are used in assessing questions related to agricultural production of food and economic demand analyses, as well as for socioeconomic analyses of food consumption and the factors that affect it. Questions related to food safety and food-related toxicology are also addressed with these data, as are assessments of the design and marketing of food products. Specific examples of uses are found in Chapters 2 and 3.

In some instances, one particular data base is used. In other instances, data users want to use more than one data base, e.g., by using the data bases conjointly. Where information from more than one data base is used, greater comparability and compatibility of the survey data bases are needed. The ability to put information from one data base together with that from another and thus link the data was regarded as necessary for wider and more effective use of the data. Data users did not look on the present limited overlap in data between surveys as redundant or unnecessary, but rather as contributing an important set of data points providing an opportunity for data linkage between survey data bases. Linkage to nondietary data bases also can be important, for example, when they are linked both to data on health and disease and to data on demographic and socioeconomic characteristics of surveyed populations. For this reason, the Committee chose to include a perspective on conjoint uses of the data in its discussions (Chapter 5).

Timely data release and reporting were commonly identified needs. Data users also wanted the surveys to provide even more data than they do now and even more specific data than are now provided on public data tapes. Users recommended that the survey data bases provide highly detailed information not only about foods themselves, but also about their nutrients, added substances, and contaminants.

COMMITTEE PERSPECTIVE ON DATA USES

Data from the surveys provide answers to some basic questions that cross the scientific disciplines and interests of all data users. For example, detailed and specific identification of who in the population consumes what foods is needed not only for assessing determinants that affect food and nutritional status, but also for designing, analyzing, or modifying a variety of food-related assistance, education, and regulatory programs.

A nationwide food and nutrition monitoring system must be viewed both in the light of its own purposes and as a synthesis of the purposes of the surveys that would contribute data to the monitoring system. Clearly, the data bases contributing to the monitoring system should meet its needs. Equally important, however, the data collection and reporting methods of the separate data bases must also meet the existing and future needs of data users, for example, the independent uses of the NFCS and NHANES data bases that would form the core of a food and nutrition monitoring system.

It is the conjoint use of data from the separate core surveys that provides information of the scope needed to describe food consumption, nutrient intake, and nutritional status. Conjoint use of these core survey data bases helps to identify food-, diet-, or nutrient-related public health concerns, from inadequate intake to excess consumption, as well as to identify trends in those concerns.

Given the scope of the public concerns to be addressed through nationwide food and nutrition monitoring, neither the NFCS nor the NHANES alone can provide the needed information; data from both surveys will be needed. Because these surveys have different purposes, they cannot be merged into a single survey without the risk of compromising some of their separate fundamental purposes. Moreover, it is unlikely that a single survey can be designed to satisfy all the needs and fit all the uses for survey data on food consumption and dietary intake.

A national data collection system (involving data from both the NFCS and the NHANES, as well as other data) would provide information needed to assess the foodand nutrition-related risks to health that may be amenable to intervention. An improved data collection system is needed to ensure the effective conjoint use of the separate survey data bases needed for a system of nationwide food and nutrition monitoring. However, it is equally important to bear in mind that each of the separate core surveys has uses that are independent of its contribution of data for nationwide food and nutrition monitoring.

Thus, the basis for the Committee's assessment of the uses for existing survey data was the identification of data uses and needs common to the separate core surveys and to nationwide food and nutrition monitoring. The design and data reporting implications that evolve from these common data uses and needs are the basis for the recommendations in this report. Essential survey purposes and uses for the data from the separate core surveys should not be compromised by survey modifications intended solely to foster increased nationwide food and nutrition monitoring capabilities. The Committee's task was to select, from among the many suggestions for possible modifications offered by data users, suggestions that did not imply such compromise.

SUMMARY RECOMMENDATIONS

The Committee's recommendations have implications for survey design, data reporting, and data use alone or in combination. Where conjoint use of data from different surveys is involved, as it would be in a nationwide food and nutrition monitoring system, recommendations applicable to one survey could have implications for a different survey data base. The rationale and recommendations of the Committee are discussed in detail in Chapters 6 and 7. In this summary, the recommendations alone are presented and are grouped under general headings.

Detailed and specific information on who is consuming what is needed for all data uses. Recommendations for modifications of survey methods that improve the utility of data developed from answering these common questions are of high priority to all data users. Most of the Committee's recommendations are therefore designed to serve these common data user needs. Other recommendations respond to more general needs involving the data themselves.

RECOMMENDATIONS FOR SURVEY DESIGN AND INTAKE METHODS

The surveys should be continuously evaluated. The Committee has suggested a list of questions which should be addressed for each priority use to assure that the surveys provide the prerequisite specificity and reliability of information for that use.

The NFCS Individual Dietary Intake component and the NHANES should be redesigned as continuous surveys with data collection from the total sample distributed over a number of years. Data accumulated in preceding years, when added to the data collected during a given year, would provide data on the total sample. Continuous data collecting, processing, and reporting systems should be implemented. The Household Food Use component of the NFCS should continue on a regular, intermittent basis unless future study demonstrates that some other design (e.g., continuous) is more advantageous.

USDA should continue to collect replicated data on food consumption and dietary intake of individuals. Because of the need for statistical information on intraindividual variability, resources should be committed to maintaining, at a minimum, collection of 3 data-days of individual intake from a representative sample of the U.S. population. Survey planners for the NHANES should consider the addition of replicated data.

Methods for the 24-hour recall of food consumption in the two surveys should be made more uniform between the surveys, including standardization of interviewing techniques and the format of soliciting information from subjects. The use of the food-frequency questionnaire technique should undergo further study before decisions are made about its addition to the NFCS.

RECOMMENDATIONS FOR POPULATION DESCRIPTORS

A joint working group composed of survey planners from both the NFCS and the NHANES should assess the sampling needs of the surveys and develop plans to foster sampling compatibility. Population descriptors used by the surveys should also be identical. The Committee recommends that the detailed population and socioeconomic descriptors of households now collected in the NFCS household surveys be incorporated in the Committee's proposed continuous NFCS survey of individual dietary intake.

RECOMMENDATIONS FOR FOOD AND NUTRIENT DESCRIPTORS

Each of the food consumption and dietary intake surveys should add core questions to obtain qualitative and quantitative information on the use of dietary (e.g., vitamin-mineral) supplements, medications, alcoholic beverages, and other discretionary dietary components (e.g., sugar, salt, and fat). The surveys should also incorporate core questions on impediments to food intake.

All future food consumption and dietary intake surveys supported by federal funds should use standardized data on the composition of foods and compatible food codes to identify identical foods. Identical criteria should be used to determine how foods are coded when they are not readily identifiable by the usual nomenclature of commerce. The use of universal product codes (UPCs) should be considered in the development of standardized food codes.

A cost-effective approach should be used to expand the data base on the composition of foods through the identification and direct chemical analysis of core foods in the diet of the U.S. population. Analyses should be undertaken to provide missing data on the composition of foods, particularly for the nutrients in foods.

Large-scale collection of product brand-name information should be deferred, until the utility of UPCs or other systems for reliable and valid large-scale collection of such data can be reviewed.

Joint, interagency efforts should be undertaken to expand and improve qualitative and quantitative data on the composition of foods. A priority goal of federally supported research should be an improvement in analytic methods needed to develop data on the composition of foods. Appropriate and validated analytic methods should be used for determining the composition of foods, particularly the components whose dietary intake in the United States, whether high or low, is of public-health importance or scientific concern.

Over the longer term, an expanded data base on the composition of foods should include standardized data on nonnutritive food components, food ingredients, and unintentional components of foods.

GENERAL RECOMMENDATIONS

Information on the details of data handling (data documentation) should be incorporated into the data tapes and added to published data reports. A wider effort should be made to educate developers and users of various data bases about analytic methods and data interpretation (e.g., users of the food consumption and dietary intake survey data).

Because of the need for the data tapes over time, data tape storage and maintenance methods should be reviewed.

Interagency efforts should be undertaken to develop a system to provide continuing information to data users, including information on the use of modern bibliographic systems, development of feedback systems for data users and collectors, and an educational system for data users.

CONTINUING EVALUATIVE PROCESSES

The Committee has suggested, in Appendix A, a process for assessing implications of future design modifications of the NFCS and the NHANES. The suggested process provides the agencies with a starting point for developing modifications in survey design and data reporting that respond to evolving user needs for data.

Assessing Changing Food Consumption Patterns

Committee on Food Consumption Patterns

Food and Nutrition Board
National Research Council

NATIONAL ACADEMY PRESS
Washington, D.C. 1981

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Introduction

The Food and Nutrition Board of the National Academy of Sciences under contract from the Food and Drug Administration (FDA) was charged to study the sources of data on food consumption and to suggest a system for integrating these data with data on nutrition and health status. The purposes of the study were to evaluate current means of determining food consumption patterns and nutritional status and to devise alternative methods for obtaining information on food consumption, food consumption patterns, and nutritional status.

FDA's interest in this subject is not unique. The White House Conference on Food, Nutrition and Health (1969) discussed the need for better surveillance data, and the General Accounting Office (1978) has detailed the need for improved food and nutrition information systems in the United States. Similarly, the Office of Science and Technology Policy (1977) and the Office of Technology Assessment (1978) have identified nutrition surveillance as an important priority. The Surgeon General's recent report, *Promoting Health, Preventing Disease: Objectives for the Nation* (Department of Health and Human Services, 1980), cites the need for a national nutrition surveillance system and for integration of various data sets to provide locally useful information for nutrition planning. While the need for appropriate systems of measuring food consumption and nutritional status is broadly recognized, such systems are relatively expensive and must be properly designed to provide appropriate information on a cost-effective basis.

Reliable data concerning food consumption of individuals are needed for various reasons. They are important for adequate assessment of the nutritional value of the U.S. food supply, for assessment of the intake of incidental contaminants and of currently approved and possible new food additives, and for development of food fortification policies and nutritional quality standards for food products.

Regulators of the safety and nutritional efficacy of the food supply are concerned with linkages between food consumption patterns* and health. Changes in the world's economy and changes in food costs and availability, including the introduction of new products, may have a marked effect on food consumption patterns of individuals and population groups. An ability to forecast the possible influences of these changes upon nutrient intake and on the population's health and productivity would allow formulation of sound policies and programs with respect to food fortification, consumer education, nutrition and food intervention, and the like. In the final analysis, the requirements for appropriate food consumption data relate to health promotion and prevention of adverse health responses in the population.

The primary uses for which FDA and other agencies may require data on food consumption patterns linked to nutrition and health are summarized in the following list. This summary, while not exhaustive, does illustrate those purposes the Committee considered while developing this report.

1. Nutritional Considerations
   - to identify foods that are the primary contributors of key nutrients in the diet for various groups
   - to identify size and nature of populations whose health is at risk due to inadequate or excessive consumption of a nutrient
   - to obtain more extensive and valid data on the potential relationships of food consumption patterns to nutritional and health status
   - to identify foods most appropriate for use in supplying specific nutrients in fortification programs for populations at risk
   - to measure the effectiveness of food fortification programs in reducing the size of the populations at risk
2. Toxicological Considerations
   - to identify the primary patterns of use of foods and food components in the diets of a population
   - to identify extreme or unusual patterns of intake of foods or food ingredients including additives
   - to identify size and nature of populations at risk from use of certain foods or food products
   - to determine amount and/or number of food items in which a food additive may be permitted

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*"Food consumption patterns" as used in this document refer to combinations of foods that constitute an individual's usual dietary intake, which includes daily and longer cyclical variations.

- to determine the need to modify regulations in response to changes in food consumption
- to determine intake of incidental contaminants and food additives

3. Historical and/or Secular Trends
   - to evaluate the past history of food consumption patterns of populations, particularly as related to economic, technological, or other factors
   - to predict changes in food consumption patterns as they may be influenced by economic, technological, or other developments

Characteristics of a System for Measuring Food Consumption Patterns

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The following characteristics are considered by the Committee to be essential to any system designed to measure food consumption patterns of individuals and population groups.

- The system must be based on statistically valid and practical sampling procedures of the population or identified target population groups. It should have sufficient flexibility to be adapted to widely different target population groups, not only on a demographic basis, but also on the basis of patterns of food use. The system may have a number of subparts.
- The system should provide for adequate description and characterization of the target population groups on which data are obtained.
- The validity and reliability of the data obtained must be sufficient to meet the requirements of the proposed end use of the data. Analysis needs must be identified early in the course of the study.
- The collection, analysis, and reporting of data must be sufficiently rapid to provide timely information. Thus the system must have an efficient data reduction system including coding and editing.
- The system should provide data on usual and extreme intake patterns, i.e., assess the variability of food intake within the population groups in relation to potential consequences on nutrition and health status.
- The system should be capable of detecting and predicting trends, through ongoing sampling and by retrospective analysis. The system should lend itself to reliable subsampling for obtaining interim or trend data on specific population groups.

- The system should be designed to meet the various data requirements of a broad variety of user groups.
- The system must be cost effective—that is, the information obtained must be of sufficient value to justify the cost of obtaining it.

The issues of privacy and confidentiality of data must be addressed in any system that collects information on individuals. If health and economic data are to be linked with dietary information, the issue is particularly critical. Appropriate safeguards for ensuring protection of privacy must be built into the system design at every stage. Not only is this a basic ethical concern, but concern for privacy will directly affect both subjects' willingness to respond and the validity of responses given.

At the present time many agencies, institutions, and individuals are involved in studies to assess food consumption and nutritional and health status of individuals and population groups. However, lack of common sampling designs and sociodemographic data makes it difficult to integrate or properly evaluate data obtained from these different sources. Lack of standardized collection methods and internal quality control is often a limiting factor. In order to expand the use of collected data, strong consideration should be given to making original data from studies available to other investigators. The sharing of data may eliminate much duplication and result in more cost-effective use of available information.

Relating Food Consumption Data and Nutritional Status Data

The value of food consumption data in relation to public health is realized when the data are processed to yield estimates of nutrient intake and of exposure to food additives and contaminants. It is not possible to assess nutritional status from dietary data alone. It is possible, however, to provide an estimate of the prevalence of individuals within a population group with intakes below requirements, and, with current knowledge of human requirements, it is possible to assess the individual's probability of inadequate status based on intake of some (but not all) nutrients. It is also possible to consider the potential risk of excessive intake of nutrients and of natural or added food components, i.e., food ingredients and additives, if the association between level of intake and risk of toxicity is known.

Health status indicators believed to be associated with food or nutrient intake can be identified if current dietary data can be linked to existing health data. Through appropriate studies of the food consumption patterns of individuals in a group, it would then be feasible to predict the prevalence of individuals who may have increased risk to their health from a particular pattern of food or nutrient intake.

Environmental variables in addition to diet (such as endemic infectious disease or unusual stress) may increase the prevalence of nutritional inadequacy from that indicated by nutrient intake. In the United States, these other factors, with the possible exception of recurrent infections in children, probably do not generally contribute to variability of requirements, and therefore a valid estimate of risk can be generated by appropriate collection and analysis of dietary data.

The following discussion of an approach to the data collection system focuses primarily on application of the information to a prediction of nutritional status. The same system could be used for assessing toxicological risk and, with some modifications that will be discussed later, for relating food consumption to various aspects of health (growth, longevity, chronic diseases, etc.).

The linkage between dietary intake and nutritional status is portrayed in Figure 1. Interest is in the usual situation on a particular day. Thus, the data essential to this system are *usual* intake of food, *usual* composition of foods, *usual* bioavailability of nutrients, and *usual* nutrient requirement of the individual. There is no precise definition of the time span represented by "usual," but for purpose of discussion it may be taken as the average value persisting over a period of weeks rather than a day or two.

The statistical approach to analysis and to the prediction of the prevalence of individuals with usual intakes below their actual requirements has been identified and discussed by Lörstad (1971). It has been applied in a prediction of the effects of iron fortification on the prevalence of inadequate intakes among menstruating women (Swiss and Beaton, 1974) and in the identification of protein:energy ratios associated with predetermined prevalences of individuals having inadequate intakes (Beaton and Swiss, 1974). This statistical approach is based on the bivariate distribution of intakes and of requirements among individuals in the population. It is applicable to a dietary analysis system designed to monitor conditions in the United States.

Analyses based upon the bivariate distribution require knowledge of (1) the distribution of usual intakes (mean, variability), (2) the distribution of usual requirements (mean, variability), and (3) the correlation between intake and requirement among individuals (FAO/WHO, 1973). For many nutrients, requirements are at first-order approximations; and for most nutrients, but not energy, the correlation between intake and requirement appears to be very low and may be ignored provided that care is taken to express the data in a manner that avoids the effect of common variables such as body size, energy intake, etc. In the case of energy, intake and requirement of the individual are generally matched relatively closely, probably through physiologic regulatory mechanisms. Thus, a high correlation between intake and requirement would be expected. For various micronutrients, there is little or no reason to expect a correlation between intake and requirement unless both relate to a third variable. For example, thiamin intake is likely to relate to total energy intake and thiamin requirement is believed to be related to energy utilization. If intake and requirement are both expressed as milligrams per day, a spurious correlation may appear. This error can be avoided by expressing intake in a manner (such as mg/1,000 kcal), which controls for the confounding variable.

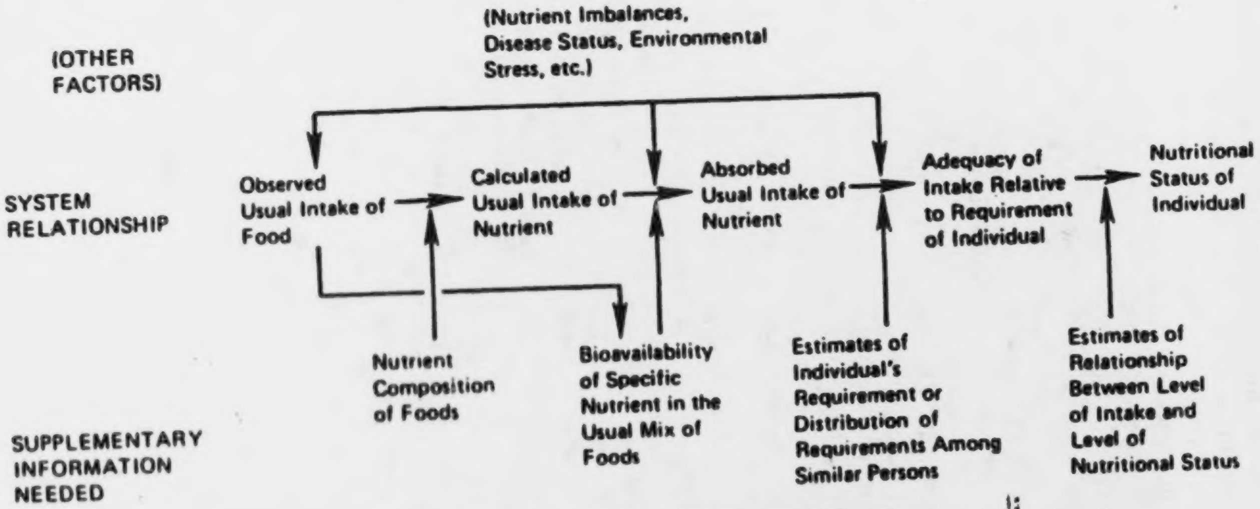
(OTHER FACTORS)
(Nutrient Imbalances, Disease Status, Environmental Stress, etc.)
SYSTEM RELATIONSHIP
Observed Usual Intake of Food
Calculated Usual Intake of Nutrient
Absorbed Usual Intake of Nutrient
Adequacy of Intake Relative to Requirement of Individual
Nutritional Status of Individual
SUPPLEMENTARY INFORMATION NEEDED
Nutrient Composition of Foods
Bioavailability of Specific Nutrient in the Usual Mix of Foods
Estimates of Individual's Requirement or Distribution of Requirements Among Similar Persons
Estimates of Relationship Between Level of Intake and Level of Nutritional Status

FIGURE 1 A system for analysis and interpretation of dietary data

Attention must focus on the need for information about the distribution of intakes and of requirements. This can be considered in the framework of the relationship portrayed in Figure 1. Data on the observed usual intakes of food by the population may be translated to nutrient intake with the use of existing food composition data. A data bank, an appropriate coding system, and a computer program are required and could possibly be based upon one or more of the several systems now existing in the United States. However, for some nutrients, the nature of the food ingested and the total diet affect bioavailability. Reasonable information about the relationship between nature of the diet and relative bioavailability is available for a number of these nutrients.

Information about the individual's actual requirement is needed to determine the adequacy of intake relative to requirement. Clearly, such information is not available. With respect to the individual, the best estimate that can be made is the relative probability that the intake does or does not meet the individual's actual requirement. At a population level, using the bivariate distribution approach, an estimate can be made of the number of individuals (but not which individuals) with intakes below their actual requirements. The required data base for such estimates includes both the mean requirement for that category of individual and the variability of requirements among similar individuals. The *Recommended Dietary Allowances* (Food and Nutrition Board, 1980) is not an appropriate reference criteria* for these determinations, but, with current information, reasonable assumptions can be made about the distribution pattern for the requirements of a number of nutrients. Simplified analyses based on dietary scores or the use of indicator nutrients warrant further investigation to enhance the usefulness of the data for various purposes.

The preceding discussion has been related to the prediction of the prevalence of intakes below actual requirements of healthy individuals. The present information base relating "requirement" and level of nutritional status is fragmentary. It is germane to recognize that neither the meaning of "requirement," definition of the level of nutritional health to which the requirement applies, nor consideration of the degree of inadequacy of intake have been addressed in this discussion.

Information about the levels of intake required to maintain different levels of nutritional status is necessary if intakes are to be linked with observed severity or frequency of inadequate nutritional status. Lörstad (1974) has

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*By definition, the "recommended dietary allowances" (RDA) as published by the Food and Nutrition Board are intended to be sufficiently high to cover the known nutritional needs of practically all healthy people. Therefore, RDA (except for energy) are estimated to exceed the requirements of most individuals. Intakes below the RDA are not necessarily inadequate, but the risk of inadequacy increases to the extent that intake is less than the level recommended as safe.

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pointed out that with such information the same format of bivariate distribution analysis, with different requirement figures, could offer a series of predictions of the prevalence of different levels of nutritional status.

It would seem that, for many nutrients, there is now sufficient information to apply the bivariate system approach to the interpretation of dietary data. The information currently available may be imprecise and could certainly be improved with additional research. Nevertheless, for many nutrients, the quality of data available seems adequate to justify the assumptions about bioavailability, average requirements, distribution of requirements, and even requirements for different levels of nutritional status that are necessary for the statistical approach to analysis. Unfortunately, for some other nutrients there are major gaps in the information base that place analogous limitations on the above and other approaches to dietary data interpretation (Beaton *et al.*, 1979).

It is emphasized again that this approach does not make provision for effects of recurrent infection, of unusual environmental stress, of genetic abnormalities, of adaptabilities of host to excesses or deficiencies, or even of nutrient imbalances other than as they are built into estimates of bioavailability or requirement. This is a limitation of the model but one that should not preclude its use in the United States in a nutrition monitoring system.

Dietary data may also be used in the assessment of the probable risk associated with excessive, rather than inadequate, intakes of natural or added constituents of foods. The approach and data requirements are analogous. In this case, what will be needed are data pertaining to the average level of intake at which manifestations of harm are suspected (analogous to average requirements of a nutrient) and the possible variability of this sensitivity among individuals. As before, the probable prevalence of various grades/severities of toxicity (analogous to various levels of nutritional status) can be estimated if information is available on the relationship between level of intake and severity of the detrimental effect.

The bivariate analysis of dietary data, then, permits an examination of the population risks associated with both low and high intakes. It also permits an examination of the probable effects of a change in food consumption, such as a proposed food fortification policy or a proposed limit for a food additive, on intake and population risk. Implementation of this approach to analysis poses certain study design requirements and necessitates the compilation of certain data bases. These are discussed in some detail in later sections of the report.

As previously mentioned, predicting health status of individuals from dietary data alone is not possible. The role of certain foods or food components in the etiology of such chronic diseases as diabetes, coronary heart disease, atherosclerosis, hypertension, and cancer is not well documented (Ahrens and Conner, 1979). In addition, there appears to be a wide variation in the susceptibility of individuals within a population to these diseases. Knowledge concerning the relationship of food consumption patterns to susceptibility to chronic disease can better be determined from a careful examination of the food consumption patterns of population groups with known unusual incidences of these chronic diseases. Care must be taken to control adequately for environmental and genetic factors.

A number of the health-data bases in existence could be used in conjunction with food intake data to develop an appropriate monitoring system. Data from current health-data bases would need to be identified, summarized, and evaluated in those population subgroups used for food intake data analysis. Details are discussed in a later section of the report.

The Proposed System

It is proposed that an ongoing system be developed and implemented by the federal agencies with major interests in food consumption and health. This system should encompass these components or subsystems:

- A continuous collection, processing, and review of food intake data from a stratified probability sample of the U.S. population. This is the core of the food consumption data.
- The collection of health status indicator data from currently available sources and their collation for population strata analogous to those from which the dietary information is derived.
- The ongoing examination of available aggregate data from commercial and governmental sources on market food disappearance from regional and economic strata comparable to the above.

Collation, analysis, and reporting of information from these three subsystems should be the responsibility of a lead agency in the federal government. This agency must have adequate personnel and fiscal capability to undertake special purpose analyses of the data bases generated by the above subsystems. There should be provision also for government and nongovernment investigators, after appropriate review of requests, to have access to the data base for meritorious projects deemed to be in the public interest. The lead agency must also have the human and fiscal sources necessary to initiate or promote field studies or other specific investigative projects in response to food-health problems or potential problems revealed by the ongoing monitoring of the data system.

The system as outlined above, and the data bases so generated, will be capable of:

- monitoring the nutritional adequacy of the food practices and food supply of the general population;
- monitoring general health trends and their potential relationship to food usage;
- identifying sectors of the population in which particular food intake-related risks may be high and about which particular concerns should exist or in which special in-depth studies should be undertaken;
- providing a data base for testing probable effects of fortification programs, food additive regulations, nutritional standards or guidelines for food products, and similar federal needs;
- monitoring potential risk associated with selected food components or contaminants; and
- providing a sound data base for studies for the examination of relationships between food intake and chronic disease in segments of the U.S. population.

FOOD INTAKE OF INDIVIDUALS—SUBSYSTEM I

It is recommended that this subsystem be established as an ongoing operation, with rapid processing of data and with capability to collate and analyze data on a "moving average" basis.

The establishment of data collection, processing, and analysis as an ongoing operation will permit the responsible lead agency to develop and maintain a highly qualified unit operating on a continuous basis. The necessary experience in the various aspects of these operations can be highly developed and the unit fully employed on an ongoing basis. This will improve operational efficiency and eliminate administrative problems inherent in a system that is only periodically involved in such studies.

For purposes of sampling design, it is suggested that the time frame for collection of a statistically adequate sample of the stratified U.S. population be 5 years. It is recommended that the design provide for the collection and processing of these data at the rate of 20 percent of the full sample per year. It is recommended that analysis and interpretation be updated each year on the basis of data accumulated for the preceding 5 years (a moving 5-year average). The annual analysis also will provide trend information for the 12-month period as an "early warning" of developing problems. This system of sample collection is portrayed graphically in Figure 2.

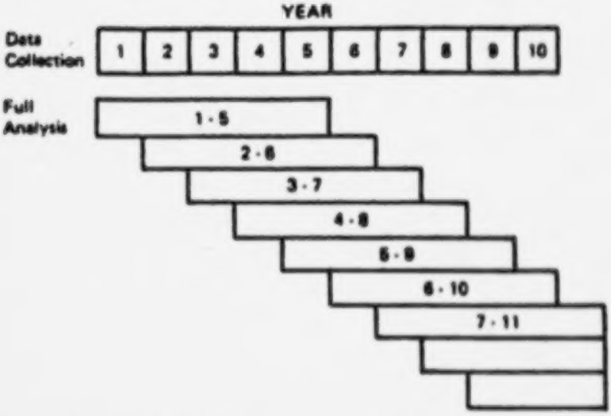

FIGURE 2 Time frame for sample collection.

Measurement of Food Intake

The data collection system should provide for replicated 1-day observations of the same individuals in sufficient number and stratification to provide an estimate of the distribution of usual intakes among the selected strata of the population. The recommended data collection technique is a 24-hour recall by trained interviewers using standardized instruments and food models to help respondents estimate quantity of food consumed and probe for precise information. This recall may be supplemented with a 3-day food record and a food frequency questionnaire to provide additional data concerning frequency of food use. The data collection and processing system must provide for internal quality control and should provide external validity checks as appropriate procedures are developed.

Four replicated 24-hour recall observations on the same individual within the 1-year sampling period may be necessary to provide a measure of the usual food intake of that individual (and of the variation currently experienced) adequate for use in determining the usual food intake pattern of the population group. Research should be initiated to determine the measurement frequency required for stipulated levels of reliability of the estimate of usual food intakes of individuals in a population and for estimation of the extremes of food consumption patterns. The precision required will vary with each study.

Sampling

The stratification of sampling should be designed to permit statistically reliable estimates of risks (low or high intake in comparison to actual needs

TABLE 1 Stratification of Sampling

Age and Physiologic State	Population Density	Region	Socioeconomic Level	Race and Ethnicity
0–5 yr	Metropolitan	Northeast	High	White
6–10 yr	Urban	Northwest	Middle	Black
11–20 yr	Periurban	Southeast	Low	Spanish-American
Male	Rural	Southwest	Poverty	
Female				Other
Pregnant				
Lactating				
21–45 yr				
Male				
Female				
Pregnant				
Lactating				
46–65 yr				
Male				
Female				
66+ yr				
Male				
Female				

or tolerances), as well as group averages. The population may be stratified, for example, according to the characteristics listed in Table 1.

It is recognized that it may not be feasible to design all of these and other desired features into a sampling frame and stratification design. It is also recognized that it will not be feasible to provide adequate numbers of individuals for distribution analyses in all cells potentially generated by the above 26 traits (14 × 4 × 4 × 4 × 4 = 3,548) and that in data analyses it will be necessary to collapse cells. Therefore, it is recommended that an experienced design group be charged with the development of an optimal design, taking into account first the questions to be put to the data and second the cost and logistical considerations. An auxiliary consideration in the sampling and analysis design should be the feasibility of collating health status indicator data for analogous subpopulations since it is the intent of the overall system that data from different sources be linked at the level of the subpopulation group and not at the level of individuals.

Data Base Requirements

It will be necessary to charge specific individuals or organizations with the development of requisite data bases for the proposed analysis system from existing information. These data bases will include distribution of nutrient requirements, distribution of food component tolerances, and food composition data including both nutrients and nonnutrients. A cooperative effort by government, academia, and industry will be needed. It is to be expected that over time the current data bases will improve in quality. The food consumption data base must be maintained in a format that permits recalculation of the intakes and reassessment of risks as other data bases improve or other needs for the data arise.

Coding and Data Analysis

The descriptors of consumed food that are entered and retained in the data base files must be sufficiently precise to allow answers for questions that may be posed at a later time. The descriptors are necessary even though information about food composition may not yet be available for all foods that can be precisely identified. While it would be desirable to identify manufacturers in food descriptions, such reporting would greatly expand the detail of the food coding system and the size of the data base storage requirement and, as a result, might reduce the reliability of data by increasing the chance of error. It is recommended that, as the system is developed, a special advisory group be convened to address the questions of precision of food identification and coding in the collection and storage of current and future food consumption data. These decisions must be made with an awareness of priority questions that are and will be put to the data base.

It seems probable that certain questions will not be answerable from the data base. For example, it may be difficult to generate reliable estimates of the distribution of intakes of infrequently used foods or of intakes of particular brands of foods. In these cases, the agency may choose to undertake specific consumption or frequency studies either as additions to dietary interviews proposed or as separate studies. The agency, on the other hand, may turn to other agency or commercial sources of data when these sources meet the requirements.

HEALTH STATUS INDICATOR DATA—SUBSYSTEM II

The stated objective of this system is to yield information that may be valuable in maintaining or improving the state of health, including nutritional status, of the U.S. population. Therefore, it is necessary to relate food consumption patterns to nutritional and health status. However, knowledge of the relationships between food consumption, nutritional status, and general health status is limited, and many areas are controversial. Careful examination of the factors to be studied and the data to be collected is required to ensure relevance to the issues under examination and to permit appropriate interpretation.

Existing health data bases can be used in conjunction with food intake data. While it is not necessary to collect both types of information from the same individuals, the collation, transfer, and summarization of health data according to population characteristics that can be duplicated in food consumption studies will be necessary.

The coordinated studies will focus initially on identified or postulated food-related health problems and will expand as relationships become clear. The health indicator data base should include information relevant to these acknowledged and possible relationships; however, there are practical limitations on the extent to which health conditions can or should be identified and retained in the data base of this subsystem.

Nutritional status is one component of health. From the proposed system, the usual food intake of individuals will be known, and this information can be used to estimate the risk of nutritional inadequacy (or excess) but not to identify the nutritional state or health of specific individuals. While prediction of the nutritional status of a population group can be assisted by limited use of anthropometric and biochemical measures, it is not recommended that this proposed monitoring system include these costly measurements for the total population sample. Rather, the collection of anthropometric data (such as height for weight, height for age, or height and weight for age) and biochemical measures (such as hemoglobin or hematocrit) should be limited to a population subsample. A detailed dietary and/or health history of individuals contacted for dietary recall information may, on occasion, be desirable. More detailed or extensive evaluations may be indicated if pilot studies identify prevalent problems in population segments.

In order to increase the potential for identifying relationships between food consumption and health status, it is recommended that available statistics be examined to identify population segments whose health indicators appear to be abnormal relative to the population average and to averages of other subgroups. Special studies of food consumption should be carried out in these population segments and/or an appropriate sampling of this population subgroup should be included in a regular monitoring program that combines information on diet and health.

Reliable statistics are available from many sources, but the data are not collated in the manner necessary to identify potential groups for study. It is recommended that a task force consider the existing sources of health information and the optimal approach to the identification and transfer of these data for use in the proposed system. The relationship of the health data to income status of population groups should also be evaluated to determine if, at least for some indicators, sampling based on economic stratification may yield the desired information. Identification of population segments to be studied should be made with a recognition of, first, the priority questions likely to be put to the composite data base, and second, the logistics and cost.

AGGREGATE FOOD DATA—SUBSYSTEM III

A number of sources of aggregate data on food disappearance and food purchase now exist within the government and the private sector. Some data are available at a national level only. Others provide data grouped according to regional or consumer characteristics. Sources in the private sector commonly provide information about specific commodities and specific brands and are designed to be rapidly responsive to market trends.

Comparison of aggregate food disappearance or food purchase data with the composite of food intake data over the time period should provide a basis for predicting relationships between the data bases. With this information, the aggregate data bases may prove to be very useful as an early warning component of the proposed system by detecting changes in foods reaching the consumer. They may be of additional use for special purpose studies, such as tracking specific commodities used in commercial products. It is recommended that uses of aggregate data bases to supplement information needed for a total overall monitoring system be identified.

IMPLEMENTATION OF THE TOTAL SYSTEM

Many parts of the proposed system, i.e., data bases and collection systems, already exist within various agencies of government. However, the parts have not been coordinated or applied as effectively as might be possible.

It is recommended that interagency discussions be undertaken with the objective of developing a coordinated system of the type described herein. Primary implementation responsibility should be assigned to one lead agency or to an interagency institution. This responsibility should relate not only to the coordination and analysis of data, but also to control of the quality of sampling, data collection, and data processing. The final conclusions can be no stronger than the weakest link between the unit that supplies information and the final processing of data to be examined.

Diet, Nutrition, and Cancer: Directions for Research

Committee on Diet, Nutrition, and Cancer
Commission on Life Sciences
National Research Council

NATIONAL ACADEMY PRESS
Washington, D.C. 1983

Committee on Diet, Nutrition, and Cancer[1]

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[1] See Appendix A for further information on committee members and staff.

1 Overview and Major Recommendations

Many diseases now known to be associated with dietary imbalances or toxic contaminants in food were once thought to arise from other causes, ranging from "bad air" to disorders of the "bodily humors." Their associations with diet have tended to be worked out by the same sequence of discoveries. First, a particular human disease is linked to some aspect of diet, e.g., a lack of fresh vegetables or the fungal contamination of grain. Alteration of the diet (by crude additions or subtractions) is then shown to prevent or alleviate the disease. Subsequently, someone succeeds in producing a similar disease in an animal model (e.g., scurvy in guinea pigs or mycotoxicoses in rats and mice), which leads to the precise identification of the active components of the diet (e.g., a nutrient or a toxic ingredient). Finally, laboratory scientists discover the mechanism by which the nutrient or toxin exerts its effects, although by this stage such details have become mainly a matter of academic interest because the disease in question has already been eradicated.

A similar sequence of discoveries has taken place in some branches of cancer research. Chronic exposure to coal tar in mineral oil was observed to cause skin cancer in humans more than a century before laboratory investigators succeeded in producing cancers in rabbits by painting their skin with coal tar. Once the cancer had been produced experimentally, the active carcinogens in the tar--polycyclic aromatic hydrocarbons--could be purified and identified, and later, their mechanisms of action explained. By this time, however, skin cancer in humans resulting from such exposure had long since been effectively abolished by general improvements in working conditions in factories; however, laboratory studies of these and other carcinogens have continued and have provided important insights into the mechanisms of carcinogenesis.

These historical examples may seem too simple for predicting the the course of research to unravel interactions between a multifactorial disease like cancer and a complex mixture like diet; but they may give us some idea of what to expect. Although interest in the study of diet and carcinogenesis can be traced to laboratory experiments performed more than half a century ago, it seemed in the 1960's that we were still in the first stages of the sequence described above. At that time, despite evidence from early experiments that modification of either total food intake or some dietary components could influence carcinogenesis, the possibility that diet *per se* was a significant factor in human cancer was still considered remote. Then epidemiologists linked the incidence of several common cancers, e.g., breast cancer, with certain general dietary patterns. Laboratory scientists followed up these observations by developing animal models for cancers suspected of being affected by diet. Subsequently, epidemiologists observed that the high incidence of breast cancer and certain other cancers is associated with a diet high in fat or its components, and laboratory investigators found that mammary cancers in certain species were similarly modified by changes in the amounts and types of dietary fat. Further studies may eventually permit isolation of the active dietary constituents, definition of the exact mechanism for the effect exerted by fat and other dietary components, and delineation of the precise diets capable of counteracting some of these effects.

However, research on nutrition and carcinogenesis has not invariably followed the sequence described above. Of the many hypotheses generated by the results of early experiments in animals, only some have been followed up by epidemiological studies. For example, clues about the effect of the caloric content of the diet per se on experimentally induced carcinogenesis have remained largely unexplored. Similarly, leads produced by international correlation studies of human populations have not always been followed up by more controlled epidemiological and laboratory investigations. For example, the finding in the mid-1960's that low selenium intake may be associated with increased cancer incidence or mortality has been tested in well-controlled laboratory experiments, but no controlled epidemiological studies (i.e., case-control or cohort studies) could be conducted because of a lack of knowledge about the precise intake of selenium.

It is never possible to predict exactly where major discoveries will be made, and any attempt to stipulate a particular sequence for research on diet and cancer would tend to stifle creativity. Therefore, the committee has been rather cautious in making suggestions. Nevertheless, it may be desirable to plan the research on diet and cancer in a logical but flexible conceptual framework that could encompass all the sources of data, i.e., surveys to monitor exposure, epidemiological studies, carcinogenesis bioassays in animals, short-term tests for genotoxicity, short-term in vivo bioassays to detect early biological indicators of carcinogenesis, and studies designed to elucidate metabolic pathways or pathogenic mechanisms.

After completing an assessment of the literature in 1982, the Committee on Diet, Nutrition, and Cancer concluded that "the differences in the rates at which various cancers occur in different human populations are often correlated with differences in diet. The likelihood that some of these correlations reflect causality is strengthened by laboratory evidence that similar dietary patterns and components of food also affect the incidence of certain cancers in animals." Thus, concordance between epidemiological and laboratory data served as the principal basis for the degree of certainty allotted to conclusions and as the basis for the interim dietary guidelines proposed in the first report. The selection of this criterion reflects the committee's conviction that persistent interaction between epidemiologists and laboratory investigators is necessary to provide a framework for future research that will lead to a more definitive understanding of diet and carcinogenesis.

STRATEGIC OBJECTIVES AND PRIORITIES FOR RESEARCH

The committee has operated on the principle that research on diet and cancer should encompass the seven strategic objectives presented below. From the numerous suggestions for research made in this report, it wishes to call attention to certain general recommendations, which are listed following the strategic objective to which they apply.

1. Identification of the foods and of the dietary macro- and microconstituents that alter the risk of cancer, and elucidation of their mechanisms of action.

In the first report, the assessment of the literature resulted in the preliminary identification of four categories of dietary constituents that are likely to affect the risk of cancer. These were saturated and unsaturated fat; certain fruits, vegetables, and whole grain cereals; smoked, cured, and pickled foods; and alcoholic beverages. The committee recommends that when the epidemiological and experimental evidence associating particular dietary components with cancer risk is sufficiently convincing, studies should be undertaken to identify the specific acti [illegible] example, attempts should be made to identify the constituents of fruits and vegetables that are responsible for the observed reduction in risk associated with their frequent consumption and to define the mechanisms of action of those constituents (see Chapter 7). Similarly, studies should be pursued to elucidate the mechanism(s) by which a high fat diet increases the incidence of certain cancers (see Chapter 6). Information from such studies would be useful in refining the interim dietary guidelines recommended by the committee in its first report.

2. Improvement of the data base and the methodology for assessing human exposure to foods and dietary constituents that may alter the risk of cancer.

Better epidemiological methods should be developed to monitor and quantify dietary exposures in human populations in order to establish more clearly the relationship of dietary constituents and dietary patterns to the occurrence of cancer. For example, innovative methods are needed to measure past dietary intake. Furthermore, better techniques should be sought to validate the data produced by all these methods. Regular nutrition surveys to monitor dietary intake would augment the data base for epidemiological studies of diet and cancer (see Chapter 4).

3. Identification of markers of exposure and early indicators of the risk of cancer.

The committee recommends that attempts be made to identify early biological or biochemical changes that reflect the ability of specific dietary constituents or dietary patterns to alter the risk of cancer in humans. For example, where neoplasia is used as the sole end point, investigations are severely limited by the long latency period between "exposure" and "expression." Therefore, one of the most pressing needs is the development of short-term tests that could identify early biological indicators of exposure to dietary constituents that affect carcinogenesis (see Chapters 4, 5, and 7).

4. Determination and quantification of the adverse or beneficial effects of the foods and of the dietary macro- and microconstituents that affect the risk of cancer.

The committee recommends that efforts be continued to evaluate the impact of potentially carcinogenic or inhibitory dietary constituents on cancer risk. These studies should include a focus on substances that can damage macromolecules, especially DNA; on those that can enhance experimentally induced carcinogenesis, i.e., promoters and cocarcinogens; and on those that can inhibit experimentally induced carcinogenesis (see Chapters 5, 6, 7, and 8).

5. Determination of the ranges of optimal intake of dietary macro- and microconstituents.

Attention should be given to determining ranges of dietary macro- and microconstituents that are optimal not merely for the prevention of deficiency diseases but also for the promotion of other aspects of health, including the reduction of the risk of cancer. For example, it would be useful to establish a dose-response curve for selenium and to define the optimal range of selenium intake, giving special attention to the levels that might be needed to achieve a reduction in the risk of certain cancers (see also Chapters 5, 6, and 7).

6. Intervention to reduce the risk of cancer.

Intervention studies should be conducted using foods or food constituents believed to be associated with a lower cancer risk, but only when a substantial body of data indicates a high likelihood of benefit without discernible risk. For example, attention might be given to reducing the consumption of fat and/or adding specific fiber components to the diet (see Chapter 6), and to the ingestion of different levels of certain microconstituents or of foods containing potential inhibitors (see Chapters 4 and 7).

7. Application of knowledge about diet and cancer to programs in public health.

To maximize the potential impact of public health programs to reduce the risk of cancer, studies should be pursued to elucidate factors that motivate people to modify their food habits. For example, it would be useful to analyze bodies of longitudinal data to learn what they reveal about factors that determine consumption patterns in different populations (see Chapter 9).

4 Epidemiological Methods

The investigation of diet and cancer in human populations has been complicated by concerns about the adequacy of the various methods of assessing exposure. The following list summarizes the approaches that have been used to measure dietary exposure in epidemiological studies:

Methods Based on Group Data	Methods Based on Individual Data
National per-capita intakes	Food intake records or diaries
Household food use	Recent (24-hour or 7-day) diet recalls
	Diet histories
	Biochemical markers of exposure
	Anthropometric measurements

These approaches and their respective strengths and limitations were described in detail in Chapter 3 of the first report by the Committee on Diet, Nutrition, and Cancer (National Research Council, 1982). The following paragraphs summarize methodological problems that characterize epidemiological studies of diet and cancer and provide suggestions for research.

Assessment of dietary intakes can be based either on group data or on data collected directly from individuals. The most frequently used method in the first category is the estimation of per-capita intakes from national food disappearance data; however, because of the rudimentary nature of such data, these estimates may not be very accurate indicators of actual consumption levels. Assessment of household food use can be based on recall histories of consumption, collected from the chief food-preparers, or on the availability of food supplies in the home, recorded by a household member or a trained nutritionist. Since this method requires contact with individual households without producing individual consumption data, it is not often used. These so-called "group" methods have proved useful for aggregate correlation analyses, which are often the basis for generating new hypotheses. Such aggregate correlations, however, do not control for confounding factors, nor do they necessarily reflect associations at the individual level.

The second type of method is based on data collected directly from individuals. These data are obtained by a variety of mechanisms, particularly through diet recalls and the contemporaneous recording of weights or volumes of foods consumed. The collection of data from food records necessarily focuses on current intake. Because this method requires meticulous attention to detail, it is practical only in studies involving small, selected samples. Diet recalls, on the other hand, can be collected from much larger and more representative samples. In contrast to recent recalls, which are focused on specified brief periods close to the time of interview, diet histories, which are also based on recall, assess usual intakes over a longer period in the past. Thus, diet histories can be used to study intakes prior to the onset of disease in cancer cases, even allowing for relatively long induction periods. Therefore, this method has been used most frequently in investigations of the etiology of disease.

The use of biochemical markers of exposure, such as components of body fluids or tissues, represents a somewhat different approach to dietary assessment. Unfortunately, few markers that reflect long-term dietary exposures have yet been identified, since the concentrations of substances in biological fluids such as serum and urine are usually related to recent exposures or to the functioning of homeostatic control mechanisms rather than to long-term intakes and body stores. In another method, certain anthropometric measures known to be correlated with obesity (including indices based on height and weight or skinfold thickness) have sometimes been used as indirect indicators of nutritional status. Since past weight, for example, can be obtained by interview, these measures are not necessarily limited to the assessment of current nutritional status.

For studies involving large samples, the diet history is the most practical and useful method. Although many investigators have expressed reservations about approaches that rely on long-term memory, there have been few studies on the validity and reproducibility of any of the diet recall methods used in epidemiological studies. Because dietary habits do not remain constant throughout life, even diet histories must be focused on a particular period. In some instances, as in studies of putative promoters, relatively recent intakes are of interest, whereas in studies of initiators, early dietary habits are likely to be relevant.

It is important to recognize that recall errors tend to be random and apply equally to the comparison groups (e.g., cases and controls). Thus, they will contribute to a reduction in the estimate of relative risk and tend to lead to a false negative conclusion. Therefore, in the interpretation of data from studies using the diet history method, a finding of a significant association is likely to be considered valid, whereas a negative finding (i.e., lack of an association) would not be assigned as much weight.

The collection of diet histories requires consideration of a wide array of variables, since eating reflects complex social, behavioral, and cultural patterns. Thus, food preferences, the temporal pattern of eating, portion sizes, use of condiments, and methods of food preparation (such as frying) and storage (which can affect nutrient content and provide opportunities for contamination) should all be considered, since any of these factors might have important influences on cancer risk. In few studies have investigators elected or been able to consider these many factors simultaneously. Moreover, current approaches to dietary data collection are generally based on the subjects' recollection of food items consumed, not their constituents, whereas most of the hypotheses being tested pertain to nutritive or nonnutritive food components. Since all foods are collections of such components, it has not been possible to relate the findings in epidemiological studies specifically to single constituents of foods.

Data collection is only the first step in the assessment of dietary exposure in epidemiological studies of cancer. The food intake data have to be classified in a meaningful manner and, in many instances, converted into nutrient equivalents. Useful data on food composition have been published by the U.S. Department of Agriculture (1975), and many investigators have assembled additional information from a variety of specific sources. Unfortunately, the data base is not uniform or complete, and the composition of a particular food item is not fixed and consistent; it may vary by the location and the season of its growth and by the method of its processing. Thus, the average or representative values in the food composition tables may be relatively inaccurate indicators of nutrient intakes for discrete population subgroups and may contribute to false negative conclusions, as explained above for diet histories. In addition, many nutrients and all nonnutritive components of foods (e.g., naturally occurring flavones or food additives) are not included in these tables, although they may be factors of interest in the testing of certain dietary hypotheses.

Epidemiology provides the only direct approach to the assessment of risk for human beings. However, because dietary measurements are not precise, estimates of risk or benefit tend to be less than the true effect. Furthermore, because small increments in risk might be accounted for by chance variation or by uncontrolled confounding factors, a relative risk (i.e., incidence of the disease in those exposed divided by the incidence in those not exposed) of less than 2.0 is rarely concluded to be meaningful. Other difficulties arise because of the latent period that must elapse between the initial exposure and the development of the disease--a period that could well encompass a number of decades and be affected by a multitude of modifying factors. Imprecision in measuring dose also results in imprecision in assessing the relationship between dose level and response, an important indicator for establishing causality, especially when the dose response is linear. Nonetheless, the advantages of direct measurements of risk in epidemiological studies are likely to outweigh advantages inherent in laboratory studies.

These are only a few of the methodological issues that the committee considered in relation to the needs for future epidemiological research on diet and cancer. In making research recommendations, the committee placed its major emphasis on trying to rectify the weaknesses in methods that precluded the formulation of firm conclusions from the studies reviewed in the first report.

RESEARCH RECOMMENDATIONS

Assessment of Dietary Exposures

- New approaches to improving the quality of dietary intake data, especially in relation to long-term dietary patterns, should be explored. Research in this area should include a search for new aids to facilitate individual recalls and should enlist the participation of specialists in human behavior and psychometric measurement, who might be able to identify the best ways to elicit accurate information and to provide new insight into the factors that influence the responses of people asked to describe their diets. In addition, a search should be conducted for biochemical markers that reflect relevant dietary exposures some time in the remote past. Where direct measurements of exposure are unsuitable (e.g., in examining serum for a nutrient under homeostatic control), indirect markers, such as serum-binding proteins or enzyme levels, may be appropriate substitutes. Because rates of absorption and metabolism of nutrients may vary among subjects, however, individuals ingesting the same diet may differ in their ultimate exposure because of individual differences in metabolism and, thus, may differ in their degree of risk for cancer. These biochemical differences among individuals should be studied in relation to observed differences in cancer risk.

- More effort should be spent in evaluating the validity of dietary methods. One approach, which has not been widely used in epidemiological research, would be to compare suitable biochemical measurements with information derived concurrently from food records or diet recalls. Although this strategy is generally useful only for assessing the validity of very recent recalls, a high degree of agreement among the different forms of measurement suggests that the recall approach applied to a more remote time period may also yield relatively accurate results. This approach could be further validated if stored biological samples from the same period were available, but the limitations for the use of stored samples described on page 17 would also apply here.

- Food composition data bases should be improved with respect to information on both nutritive and nonnutritive constituents and on regional and seasonal variations in composition. The current data base lacks information on the components of fiber, essential trace elements (e.g., selenium), nonessential trace elements (e.g., cadmium), and food additives.

- In future studies, greater attention should be given to food preparation and storage. These two processes can result in the production or modification of the nature and amount of a variety of dietary components that present a potential risk for cancer (e.g., aflatoxin contamination during storage of grain or production of mutagens during cooking).

- Better data are needed on long-term trends in the composition of average national diets. On a regular basis, cross-sectional information should be collected from representative samples of the U.S. population through surveys such as the annual Health and Nutrition Examination Surveys conducted by the National Center for Health Statistics, Department of Health and Human Services. The accumulated data can then be correlated with trends in cancer incidence. Information on such trends can also be obtained by repeated measurements of intake at well-spaced intervals among the subjects in prospective cohort studies. The resultant data will provide information not only on the changing patterns of eating during a lifetime but also on the reproducibility of the dietary assessment method used.

Types of Epidemiological Study

Each of the several epidemiological study designs offers particular advantages in certain circumstances (e.g., rare cancers can be examined in case-control studies but seldom in cohort studies). On the other hand, each of these designs has inherent limitations, as noted in the first report (National Research Council, 1982). For this reason, studies of all types, if appropriately applied, will be of value in further investigations of diet and cancer in human populations.

- Correlation studies, if well designed, can continue to provide useful information on the relationship between diet and cancer. Whenever possible, these studies should be based on exposure data collected directly from individuals rather than on per-capita consumption estimates. When sufficient information is available, they should also be based on morbidity rather than on mortality data, since the latter are influenced by survival patterns and can be misleading (National Research Council, 1982).

- Consideration should be given to carrying out case-control studies in populations such as those with unusual dietary habits or levels of exposure as well as those at unusual risk for specific cancers. International, collaborative case-control studies should be encouraged, but the sample size in each geographical area should be sufficiently large to permit separate analysis of the data. This would enable investigators to replicate the findings in diverse settings using a common methodology. To the greatest extent possible, the determination of sample sizes in all case-control studies should allow for meaningful examination of particular subgroups, statistical control of all important confounding factors, and the examination of interactions between separate dietary components or between dietary and nondietary factors. In estimating sample size requirements, investigators need to recognize that errors in measurement of exposure necessitate an increase in the sample size to demonstrate statistically significant associations. Case-control studies have limited value for investigations based on biochemical indicators of exposure, since these markers may be altered by the disease in the cases. However, clues to the possible biochemical markers of exposure may be obtained from such studies.

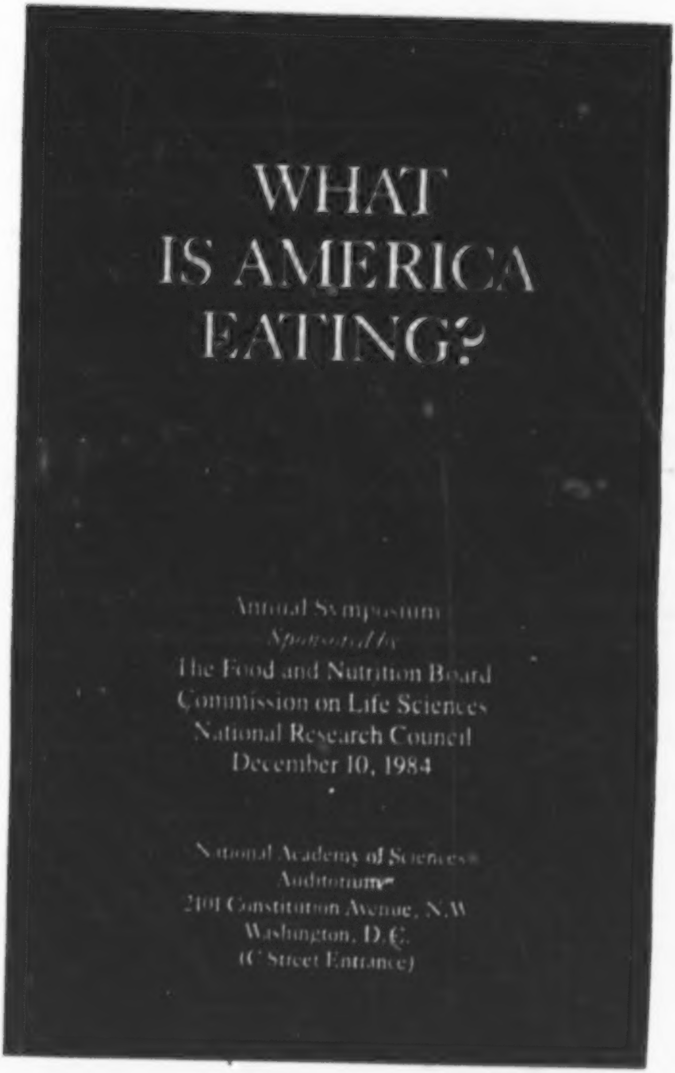
- More cohort studies of diet and cancer are needed. This is the most suitable approach for investigations based on biochemical indicators of dietary exposures. Cohort studies are best carried out in populations at high risk for diet-associated cancers, where representative dietary data can be readily obtained and where long-term follow-up can be aided by population-based cancer registries and good vital statistics data for end points. Whenever possible in such studies, biological samples (such as serum, urine, and feces) should be collected and stored for later biochemical analysis of specimens from controls and from subjects who subsequently develop cancer. Long-term storage also enables the investigators to incorporate newer hypotheses or analytical procedures into the study at a later time. However, the utility of stored biological samples is limited because the samples reflect only one or possibly a few finite periods in an individual's life and because the samples may deteriorate during storage and handling. Because cohort studies are expensive and of very long duration, a search should continue to be made for existing cohorts for which there is relevant information on dietary exposures. In designing cohort studies, the sample size should be sufficiently large to ensure that an adequate number of cases will be identified, and their selection should be based on considerations discussed above for case-control studies.

- Intervention studies (trials) have many advantages, but they should be considered only when supporting evidence from other types of studies is strong and only after the risks involved have been carefully weighed. For ethical reasons, these studies will have to be limited to examinations of putative protective factors or of the effects from reduced exposure to risk factors. Several trials of specific microconstituents (e.g., β-carotene) have recently been initiated. There is also a great need to study the effects of specific foods and food groups (e.g., dark green and deep yellow vegetables, and those of the genus Brassica--members of the cabbage family), since the biological effectiveness of a food component is probably affected by the presence of other constituents in the diet, and since the effects observed in epidemiological and experimental studies may be due to a mixture of different inhibitors of carcinogenesis. To obtain more definitive data, the randomization procedure in these studies should be based on individuals rather than on groups, whenever possible.

Analysis of Data

- Analysis of data from epidemiological studies should include examinations of specific foods and food classes, even when the hypothesis pertains to nutrients. Relationships involving nutrients from selected groups of foods or involving nonnutritive components of foods might be uncovered by this approach.

- Studies should be conducted to determine the limitations of the logistic regression model for the analysis of epidemiological data on diet and cancer. The extent to which the actual data in a study can deviate from the theoretical distribution and still yield meaningful results should be defined. Moreover, since many of the dietary and nondietary factors in studies on cancer are highly intercorrelated, efforts should be made to explore statistical methods that are less sensitive to collinearity than is multiple logistic regression analysis. Finally, statistical techniques need to be developed to describe more accurately the various forms of interaction among dietary variables.



WHAT IS AMERICA EATING?

Annual Symposium
Sponsored by
The Food and Nutrition Board
Commission on Life Sciences
National Research Council
December 10, 1984

National Academy of Sciences
Auditorium
2101 Constitution Avenue, N.W.
Washington, D.C.
(C Street Entrance)

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What Is America Eating?

The symposium will provide a forum for discussion of current research on the eating patterns of the U.S. population, factors that determine them, and their effects on nutritional status. The first session will be a review of eating patterns and trends and their implications for nutrition and the health of the U.S. population. This will be followed by a session to explore the economic, physiological, psychological, and behavioral factors that affect food choices. The third session will address major eating trends and their nutritional implications with emphasis on socioeconomic groups at nutritional risk. The final session will be a panel discussion on the implications of current knowledge on eating patterns for nutrition programs, policy, and research.

What Is America Eating?

PROGRAM

8:30 a.m.	**REGISTRATION***
9:00 a.m.	**OPENING REMARKS** Kurt Isselbacher Massachusetts General Hospital Boston *Chairman, Food and Nutrition Board*
Session 1	**EATING PATTERNS AND THE NUTRITIONAL AND HEALTH STATUS OF THE U.S. POPULATION: PAST AND PRESENT**
9:15 a.m.	Representative, Joint USDA/DHHS Nutrition Monitoring Evaluation Committee
9:55 a.m.	**Discussion**
10:15 a.m.	**Break**

Session 2	**WHAT FACTORS SHAPE EATING PATTERNS?**
10:30 a.m.	**Introductory Remarks** Stanley Johnson, *Session Chairman* Department of Agricultural Economics University of Missouri, Columbia
10:35 a.m.	**Eating Patterns: An Economic/Nutritional Perspective** Benjamin Senauer Department of Agriculture & Applied Economics University of Minnesota
10:55 a.m.	**Physiological and Psychological Factors Affecting Food Selection** Paul Rozin Department of Psychology University of Pennsylvania
11:15 a.m.	**Eating Patterns and Nutrition: A Consumer Behavior Perspective** Kenneth Roering Department of Marketing University of Minnesota
11:35 a.m.	**Discussion**
12:00 noon	**Lunch**
Session 3	**EATING TRENDS AND NUTRITIONAL CONSEQUENCES**
1:15 p.m.	**Introductory Remarks** Helen Guthrie, *Session Chairman* Department of Nutrition Pennsylvania State University

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**Free registration. No preregistration required. Attendees are asked to register at C Street entrance (see front flap for detailed address). American Dietetic Association continuing education credits applied for. If further information needed, please contact Shirley Ash at 202-334-2581.*

1:20 p.m.	**Snack Foods, Snacking, And Eating Away From Home** Karen J. Morgan Department of Human Nutrition University of Missouri
1:40 p.m.	**Variety In Foods** Helen Wright Department of Nutrition Pennsylvania State University
2:00 p.m.	**Discussion**
Session 4	**IMPLICATIONS OF CURRENT KNOWLEDGE FOR NUTRITION PROGRAMS, POLICY, AND RESEARCH**
2:15 p.m.	**Panel Discussion** Jean-Pierre Habicht, *Panel Moderator* Division of Nutritional Sciences Cornell University Gilbert Leveille Nutrition and Health Sciences General Foods Corporation Johanna Dwyer Frances Stern Nutrition Center New England Medical Center Hospital Betty Peterkin Human Nutrition Information Service U.S. Department of Agriculture Lynn Parker Food Research and Action Center
3:00 p.m.	**Adjournment**

FOOD AND NUTRITION BOARD

The Food and Nutrition Board (FNB) is one of the oldest units of the National Research Council. It was established more than four decades ago, primarily to address issues of national importance that pertain to the safety and adequacy of the nation's food supply, to establish principles and guidelines for adequate nutrition, and to render authoritative judgment on the relationship between food intake, nutrition, and health. The FNB is a multidisciplinary group of biomedical scientists with expertise in various aspects of nutrition, food science, epidemiology, food toxicology, and food safety. These scientists deliberate on global issues concerning food and nutrition, initiate studies that are later assigned to standing or ad hoc FNB committees, and oversee the work of these committees.

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INFORMATION

Lunch

12:00 p.m. — December 10, 1984
Participants may wish to have lunch at one of the nearby eating places. A handout sheet with map is available at the registration desk.

Coffee

Will be available during break in the Great Hall. (Note — Coffee is not permitted in the auditorium or upper lounge.)

Smoking

Those desiring to smoke may do so in the Great Hall or the upper lounge.

Telephones

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Mr. **Walgren**. Thank you very much, Dr. Martorell.

We will continue on with the panel and then turn for some group discussion.

Dr. LaRosa.

STATEMENT OF DR. JOHN C. LaROSA, PROFESSOR OF MEDICINE AND HEALTH CARE SCIENCES, GEORGE WASHINGTON UNIVERSITY, AND MEMBER, NUTRITION COMMITTEE OF THE AMERICAN HEART ASSOCIATION

Dr. **LaRosa**. Thank you very much, Mr. Chairman.

Mr. Chairman and members of the subcommittees, my name is Dr. John LaRosa. I am a physician and a member of the American Heart Association's Nutrition Committee and a professor of medicine and health care sciences at George Washington University. I wish first to thank you for inviting me to testify on behalf of the American Heart Association.

I have a written statement and some attachments, and I ask that they be included in the record. I would like to briefly summarize them now.

The American Heart Association enthusiastically supports this bill, the National Nutrition Monitoring and Related Research Act of 1985. The establishment of a Federal program focusing on nutrition, including continuous nutritional monitoring, support for new technologies to determine dietary and nutritional status, as well as other research, and unified Federal policies on nutrition will aid enormously in the promotion of public health and in the rational treatment of disease.

As you may be aware, cardiovascular disease continues to be the Nation's No. 1 killer, accounting for the death of close to 1 million Americans annually. As many as 42 million Americans have one or more forms of heart or blood vessel disease. Much of the death and disability associated with cardiovascular disease is preventable.

Elevated blood cholesterol and high blood pressure are strongly influenced by the composition of the diet, particularly by the amount of dietary fat and salt. In addition, an excess intake of calories in any form leads to obesity which, in turn, aggravates high blood cholesterol and high blood pressure.

Each year, the American Heart Association spends approximately $25 million to educate Americans in ways of preventing heart attack by controlling or eliminating these major risk factors. A major part of this program has been the American Heart Association's efforts in nutrition education.

To aid these educational efforts, we need better and more timely information about the dietary intake of our people.

Congressman MacKay, Congressman Brown, and Congressman Walgren, all of you should be commended for your foresight in giving the Department of Health and Human Services authority to coordinate nutrition programs that are administered by the Department of Agriculture, the Defense Department, the Centers for Disease Control, and other agencies. The current system for the dissemination of materials on nutrition is too fragmented and dispersed. It is important that nutritional information be centrally supervised and internally consistent.

The American Heart Association is also pleased that throughout this bill there is an emphasis on attention to the nutritional status of groups which have received inadequate attention in the past. Dietary intake varies greatly among different age, socioeconomic, ethnic, and racial groups. The poor and the elderly, in particular, do not always have access to nutritionally balanced diets, with consequences which must be better defined and prevented.

Another issue which this bill addresses is the timeliness of dietary information. The current system does not provide dietary information and food consumption data on a sufficiently timely basis to influence public policy. The current bill would ensure that food consumption and nutrition data would be distributed on an annual basis. This is important if scientists, health providers, educators, and policymakers are to identify potential areas of concern before they have had a serious and perhaps harmful impact.

We at the American Heart Association think a nationally coordinated nutrition monitoring and research program is long overdue. The National Nutrition Monitoring and Related Research Act of 1985, H.R. 2436, will allow the Government to develop a comprehensive nutrition data base that is updated annually. In doing so, it will provide us with a much clearer vision of the direction in which further research should proceed. Equally important, it will provide the public and policymakers with stronger, more reliable information on which to base decisions about diet and nutrition and their impact on health. This act will be the first step toward a national nutrition policy that is proactive rather than reactive.

Thank you very much.

[The prepared statement of Dr. LaRosa follows:]

STATEMENT OF THE

AMERICAN HEART ASSOCIATION

ON

NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT

SUBMITTED TO THE

SUB-COMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY

SUB-COMMITTEE ON DEPARTMENT OPERATIONS,
RESEARCH AND FOREIGN AGRICULTURE

SUB-COMMITTEE ON DOMESTIC MARKETING,
CONSUMER RELATIONS AND NUTRITION

JULY 25, 1985

88

Mr. Chairman and members of the Subcommittees, my name is Dr. John LaRosa. I am a physician and a member of the American Heart Association's Nutrition Committee and Professor of Medicine and Health Care Sciences at George Washington University. I wish first to thank you for inviting me to testify on behalf of the American Heart Association.

The American Heart Association, enthusiastically supports H.R. 2436, the "National Nutrition Monitoring and Related Research Act of 1985." The establishment of a Federal program focusing on nutrition, including continuous nutritional monitoring, support for new technologies to determine dietary and nutritional status, as well as other research, and unified Federal policies on nutrition will aid enormously in the promotion of public health and in the rational treatment of disease.

As you may be aware, cardiovascular disease continues to be the Nation's number one killer, accounting for the death of close to one million Americans annually. As many as 42 million Americans have one or more forms of heart or blood vessel disease. Much of the death and disability associated with cardiovascular disease is preventable.

There are three major risk factors for cardiovascular disease that essentially can be eliminated -- elevated blood cholesterol, high blood pressure and cigarette smoking. Two of them, elevated blood cholesterol and high blood pressure, are strongly influenced by the composition of the diet, particularly the amount of dietary fat and salt. In addition, an excess intake of calories in any form leads to obesity, which, in turn, aggravates high blood cholesterol and high blood pressure.

Each year, the American Heart Association spends approximately 25 million dollars to educate Americans in ways of preventing heart attack by controlling or eliminating these major risk factors. A major part of this program has been the American Heart Association's efforts in nutrition education. As an example, later this year, from September 8th to 14th, the Heart Association will kick-off the American Heart Food Festival. We will be working with 8,000 grocery stores and the media across the country. We estimate that 92 million Americans will be exposed to these messages. When enacted, the Nutrition Monitoring and Research Act will help us to extend and focus on such programs. In doing so, we can be part of a coordinated national program to improve the nutritional and health status of all Americans.

I would like to take this opportunity to discuss two current major dietary concerns of the American Heart Association. First, dietary sodium or salt and its relation on hypertension, and second, dietary fat and cholesterol and its effect on heart disease.

Salt is widely regarded as a contributing factor in high blood pressure. Sixty million Americans, one out of every four, are afflicted by hypertension. The incidence of this disease is twice -- I emphasis twice -- as high among the elderly and Black Americans.

As I am sure you know, the risks associated with high blood pressure are considerable. For those individuals whose blood pressure is not adequately controlled, there is an increased risk of stroke, heart disease and kidney problems. High blood pressure is the primary cause of the 500,000 cases of stroke and the 170,000 stroke-related deaths that occur each year in the United States. Furthermore, high blood pressure is a major contributor to the 1.25 million heart attacks and the 550,000 deaths from heart attack that occur annually.

While the overall association between excessive salt intake and high blood pressure is clear, we need more precise information about the impact of dietary salt, particularly in specific age and racial groups. Such information is essential to extend and focus our understanding of the relationship between blood pressure and diet and to target educational programs to those most in need of them.

A second major concern of the Heart Association is the high incidence of cardiovascular disease related to elevated blood cholesterol. Unfortunately, societies like ours, with diets high in saturated fats and cholesterol, develop high blood cholesterol levels. These levels, in turn, lead to greater risks of heart attacks than is found in those societies which consume lower fat and lower cholesterol diets.

In this regard, I want to call to the attention of the Subcommittees recent reports from the National Institutes of Health, one on cholesterol and one on obesity. In December of last year, the NIH issued a consensus statement on the Lowering of Blood Cholesterol to Prevent Heart Disease. The conclusion of an expert panel was the elevated blood cholesterol levels are a major cause of coronary artery disease. The panel also concluded that it is established beyond a reasonable doubt that lowering elevated blood cholesterol levels by diet and, if necessary, drugs will reduce the risk of heart attack due to coronary heart disease.

In February of this year, another NIH consensus conference, on Obesity, was convened. The conclusions of that Consensus Conference were that obesity clearly has adverse effects on health and longevity and is associated with both high blood pressure and high blood cholesterol.

I wish to include the reports of these two consensus conferences in my statement and I strongly recommend that the Subcommittees review their findings. These reports emphasize the critical relationship between nutritional factors and public health.

To aid the major educational efforts and changes in dietary habits endorsed by these reports, we need better and more timely information about the dietary intake of our people. We must be certain that changes in our national diet maintain the growth and development of our children and the quality of nutrition for adults. The implementation of this comprehensive nutrition monitoring plan will aid enormously in this effort.

Congressman McKay, Congressman Brown and Congressman Walgren, all of you should be commended for your foresight in giving the Department of Health and Human Services (HHS) authority to coordinate nutrition programs that are administrated by the Department of Agriculture, the Defense Department, the Centers for Disease Control and other agencies. The current system for the dissemination of materials on nutrition is too fragmented and dispersed. It is important that nutritional information be centrally supervised and internally consistent, and we support the legislation's provision to make Health and Human Services the lead agency for coordinating the national nutrition monitoring program.

HHS is the federal department which administers health and welfare programs for all segments of our population -- including the young, the poor, the indigent, and the aged. It is the department that includes the National Institutes of Health, the Public Health Service and the Office of Nutrition and Food Sciences and is the best place to coordinate a nutrition monitoring program.

The American Heart Association is also pleased that throughout H.R. 2436 there is an emphasis on attention to the nutritional status of groups which have received inadequate attention in the past. Dietary intake varies greatly among different age, socioeconomic, ethnic and racial groups. In order to have the most useful information, it is necessary to collect data not only for the total population but for subgroups as well. The poor and the elderly, in particular, do not always have access to nutritionally balanced diets, with consequences which must be better defined and prevented.

Section 103 of the legislation directs the comprehensive national nutrition monitoring and related research plan "to access, collate, analyze and report on a continuous basis the dietary and nutritional status and trends of the United States population, and separately report on the status and trends of preschool and school-age children, pregnant and lactating women, elderly individuals, low income populations, Blacks and Hispanics." We strongly endorse this section of the bill.

Another issue which H.R. 2436 would address is the timeliness of dietary information. The current system does not provide dietary information, and food consumption data on a sufficiently timely basis to influence public policy. The National Health and Nutrition Survey (NHANES) and the Nationwide Food Consumption Survey (NFCS) are published every 6 or 7 years. The most recent HANES data were collected in 1981 before, for example, the impact of the recession on dietary intake was evident. The National Nutrition and Monitoring and Related Research program would insure that food consumption and nutrition data would be distributed on an annual basis. This is important if scientists, health providers, educators and policy makers are to identify potential areas of concern before they have had a serious and perhaps harmful impact.

We, at the American Heart Association, think a nationally coordinated nutrition monitoring and research program is long overdue. Enactment of H.R. 2436 could mean that health care providers, scientists, private entities and government will have the ability both to identify high risk groups on a timely basis and to monitor long-term trends more precisely. When enacted, H.R. 2436, for the first time will mean the United States has a sound coordinated national nutrition monitoring and research policy.

During the 20th Century, both the Congress and the Executive Branch have responded to the nutritional needs and concerns of the American people.

During World War II, as a matter of national security, Congress enacted the School Lunch program because it was believed that a healthy population would be better able to defend itself.

The food stamp program was developed in the 1960s in response to the perception of widespread hunger and malnutrition in a nation enjoying agricultural surpluses.

The National Nutrition Monitoring and Research Related Act, H.R. 2436, will allow the government to develop a comprehensive nutrition data base that is updated annually. In doing so, it will provide us with a much clearer vision of the direction in which further research should proceed. Equally important, it will provide the public and policy makers with stronger, more reliable information on which to base decisions about diet and nutrition and their impact on health. H.R. 2436 will be the first step toward a national nutrition policy that is proactive rather than reactive. Thank you.

HEALTH IMPLICATIONS OF OBESITY

National Institutes of Health
Consensus Development
Conference Statement
Volume 5 Number 9

Introduction

Current knowledge of human obesity has progressed beyond the simple generalizations of the past. Formerly, obesity was considered fully explained by the single adverse behavior of inappropriate eating in the setting of attractive foods. The study of animal models of obesity, biochemical alterations in man and experimental animals, and the complex interactions of psychosocial and cultural factors that create susceptibility to human obesity indicate that this disease in man is complex and deeply rooted in biologic systems. Thus, it is almost certain that obesity has multiple causes and that there are different types of obesity.

To assess the health implications of obesity, new knowledge and new epidemiologic observations have introduced a variety of complications that must be addressed. Thus, a reassessment of definitions and measurements of obesity is required. There is controversy surrounding the interpretation of data showing an association of body weight with morbidity and mortality. The interpretations of data from different studies have been complicated by the confounding effects of smoking behavior, the coexistence of diseases other than obesity, and variations in methods of data collection and followup. Because population samples in some studies have not been representative of the U.S. population, there have been uncertainties as to how far their conclusions can be generalized for recommendations for dietary advice and treatment.

There is evidence that an increasing number of children and adolescents are overweight. Even though all overweight children will not necessarily become overweight adults, the increasing prevalence of obesity in childhood is likely to be reflected in increasing obesity in adult years. The high prevalence of obesity in our adult population and the likelihood that the nation of the future will be even more obese demand a reassessment of the health implications of this condition.

For the special purpose of resolving the pressing questions relating to the health implications of obesity, the NIH Office of Medical Applications of Research, the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, and the National Heart, Lung, and Blood Institute convened a consensus development conference on the health implications of obesity on February 11-13, 1985. After listening to 1½ days of presentations by experts in the field, hearing audience comments, and reviewing the medical literature, a consensus panel representing the professional fields of nutrition, nutritional biochemistry and metabolism, endocrinology, internal medicine, gastroenterology, epidemiology, biostatistics, psychiatry, pediatrics, and family medicine considered the evidence and agreed on answers to the following questions:

- What is obesity?
- What is the evidence that obesity has adverse effects on health?
- What is the evidence that obesity affects longevity?
- What are the appropriate uses and limitations of existing height-weight tables?
- For what medical conditions can weight reduction be recommended?
- What should be the directions of future research in this area?

Only the above questions were addressed. Extremely important issues relating to obesity such as prevention, treatment (including exercise), and the impact on society were not addressed by this panel. The special relationship of obesity to lower socioeconomic status was not addressed.

1.

What is Obesity?

Adipose tissue is a normal constituent of the human body that serves the important function of storing energy as fat for mobilization in response to metabolic demands. Obesity is an excess of body fat frequently resulting in a significant impairment of health. The excess fat accumulation is associated with increased fat cell size; in individuals with extreme obesity, fat cell numbers are also increased. Although the etiologic mechanisms underlying obesity require further clarification, the net effect of such mechanisms leads to an imbalance between energy intake and expen-

The National Institutes of Health urges that this summary statement be posted, duplicated, and distributed to interested staff.

diture. Both genetic and environmental factors are likely to be involved in the pathogenesis of obesity. These include excess caloric intake, decreased physical activity, and metabolic and endocrine abnormalities. Hence, a number of subtypes of obesity exist.

The precise determination of the amount of body fat requires technically sophisticated methods that are available only in research laboratories. For public health studies and clinical practice, simple and convenient anthropometric measurements based on height, weight, and skinfold thickness are recommended. For adults of 20 years and older, two methods are now in wide use: (1) estimation of relative weight (RW = measured body weight divided by midpoint of medium frame desirable weight recommended in the 1959 or 1983 Metropolitan Life Insurance Company tables) and (2) calculation of body mass index (BMI = [body weight in kg] divided by [height in $m]^2$). Because body composition varies among individuals of the same height and weight, these measurements only approximate the precise magnitude of fatness. Nevertheless, they correlate with the risk of adverse effects on health and longevity. Separate criteria must be used for evaluating fatness in children and adolescents.

Adipose tissue depots do not constitute a uniform organ; fat cells around the waist and flank and in the abdomen are more active metabolically than those in the thigh and buttocks. The location of body fat has emerged as an important predictor of the health hazards of obesity. Sites of body fat predominance are easily measured by the ratio of waist to hip circumferences. High ratios are associated with higher risks for death and illness.

Based on indices of body fat, studies of large populations have shown that there is a continuous relationship between RW or BMI and morbidity and mortality. Thus, it becomes important to establish ranges of these indices as guidelines for developing appropriate and effective approaches for the treatment and prevention of obesity.

Since the amount of body fat, as estimated by the above indices, is a continuous variable within the population, all quantitative definitions of obesity must be arbitrary. The panelists agree that an increase in body weight of 20 percent or more above desirable body weight constitutes an established health hazard. Significant health risks at lower levels of obesity can present hazards, especially in the presence of diabetes, hypertension, heart disease, or their associated risk factors.

2.

What is the Evidence That Obesity has Adverse Effects on Health?

Clinical observations have long suggested a connection of obesity (particularly in its extreme forms) with a variety of illnesses. Obesity creates an enormous psychological burden. In fact, in terms of suffering, this burden may be the greatest adverse effect of obesity. At the present time, the strongest evidence that obesity has an adverse effect on physical health comes from population-based prevalence (cross-sectional) and cohort (followup) studies. These data are complemented by weight-reduction trials.

The most comprehensive data on prevalence of cardiovascular disease (CVD) risk factors and obesity are the National Health and Nutrition Examination Surveys (NHANES). NHANES I was conducted from 1971 through 1974 and NHANES II from 1976 through 1980. Both were based on a representative sample of residents of the United States.

Data from NHANES II were analyzed by comparing several parameters for the subjects at or above, or below, the 85th percentile of the reference population.* At or above this cutoff point, males have a BMI ≥ 27.8 and females have a BMI ≥ 27.3. This analysis showed a strong association between the prevalence of obesity and CVD risk factors. Based on these criteria, the prevalence of hypertension (blood pressure greater than 160/95) is 2.9 times higher for the overweight than for the nonoverweight. The prevalence is 5.6 times higher for the young (20 through 44 years old) overweight than for the nonoverweight subjects in this age group. The prevalence is twice as high for the obese older (45 through 74 years old) group as it is for the nonoverweight subjects of the same age. The prevalence of hypercholesterolemia (blood cholesterol over 250 mg/dl) in the young overweight age group is 2.1 times that of the nonoverweight group; overweight and nonoverweight subjects show similar prevalences for hypercholesterolemia after age 45.

Levels of blood pressure and serum cholesterol vary with levels of obesity in a continuous manner. This relationship holds for the so-called normal as well as the elevated range in observational studies. Intervention studies confirm that levels of blood pressure and serum cholesterol can be reduced by weight reduction.

The prevalence of reported diabetes is 2.9 times higher in overweight than nonoverweight persons in the NHANES data. Type II diabetes (maturity onset or noninsulin-dependent mellitus—NIDDM) appears to be an inherited disease; however, studies clearly show that weight reduction can reverse the abnormal biochemical characteristics of NIDDM.

Coronary Artery Heart Disease (CAHD)

The relationship of obesity to the incidence of CAHD has been studied in a large number of cohort studies. In contrast to the consistent relationship of obesity to CAHD risk factors found in the overwhelming majority

*Noninstitutionalized, nonpregnant U.S. residents, ages 20 to 29, 1976-1980.

of prevalence studies, widely divergent results have been reported for the relationship of obesity to the incidence of CAHD. Thus, the eight cohort studies of the U.S. Pooling Project found discrepant results, including no association, a U-shaped relationship, and a positive relationship of obesity to CAHD. However, when data from these same studies were combined, there was a positive relationship of obesity to the risk of CAHD. Possible explanations for the discrepant findings include differences in health status of industrial workers in contrast with health status of the total population, varying duration of followup among the studies, and inadequate sample sizes.

Studies in which obesity predicted CAHD usually found that obesity was not a risk factor independent of the standard risk factors. However, the Framingham Study, a large general population-based study that is strengthened by having long duration followup data, recently disclosed an increasing risk of CAHD with increasing levels of obesity, independent of the other standard risk factors.

Other recent studies indicate that the distribution of fat deposits may be a better predictor of CAHD than is the degree of obesity. Excess abdominal fat is more often related to disease than are fat deposits in the thigh or gluteal areas.

Cancer

There are numerous epidemiological studies of obesity and site-specific malignancies, one of the largest of which is the American Cancer Society (ACS) Study involving more than 1 million men and women. Through the last followup year (1972), 93 percent of the subjects were traced (alive or dead). Obese males, regardless of smoking habits, had a higher mortality from cancer of the colon, rectum, and prostate. Obese females had a higher mortality from cancer of the gallbladder, biliary passages, breast (postmenopausal), uterus (including both cervix and endometrium), and ovaries. In the case of endometrial cancer, women with marked obesity showed the highest relative risk (5.4) for the obese versus the nonobese.

3.

What Is the Evidence That Obesity Affects Longevity?

Obesity, when measured by relative weight (actual weight as a percentage of average or desirable weight for a given height/age/sex group) has an adverse effect on longevity. Convincing evidence of this has been evaluated in four very large insurance studies (1903 to 1979), the Framingham 30-Year Followup Study, the American Cancer Society Study, and other smaller cohort studies. Some additional cohort studies do not show this adverse effect, but these studies present problems in interpretation due to small size, followup 10 years or less, occupational bias, or a population otherwise not representative of the U.S. population. The greater the degree of overweight, the higher the mortality ratio or excess death rate. Both mortality ratio and excess deaths per 1,000 per year increase with length of followup. Two small groups of insurance policyholders who reduced weight to acceptable levels for standard insurance had a decline in mortality to normal. In the insurance studies, the increased mortality with overweight was observed in normotensive men and women, without other major impairment, who would have been eligible for standard insurance rates except for being overweight. Smokers were not differentiated from nonsmokers. In the Framingham and ACS studies, the increase in excess mortality with increasing degrees of overweight was present in both smokers and nonsmokers.

The pattern of excess mortality variation with relative weight is illustrated in men ages 15 to 39 years at entry from data in the 1979 Build Study.

Weight Relative to Average Weight	Mortality Ratio
65-75%	105%
75-95	93
95-105 (average)	95
105-115	110
115-125	127
125-135	134
135-145	141
145-155	211
155-165	227

For those with relative weight of 125 to 135 percent at entry, the aggregate mortality ratio was 134 percent, as shown above. When mortality was analyzed by duration, the mortality ratio increased from 110 percent at the 0 to 5-year interval to 169 percent at the 15 to 22-year interval. The weight class for lowest mortality shown above is below the average weight category. There is higher mortality in the lowest relative weight class, 65 to 75 percent of average. In extreme obesity ("morbid" obesity), the mortality ratio has been reported in a small series as being of the order of 1,200 percent. A recent analysis has shown that the body mass index of minimum mortality, derived from the data in the 1979 Build Study, increases with age in a straight line relationship, the lines for male and female being virtually identical. The 1959 and 1983 Metropolitan Life Insurance Company tables of ranges of weight with minimal mortality do not provide for any age variation.

The increase in mortality versus relative weight is steeper in men and women under age 50 than in older persons, and the increase with duration is also steeper. These findings suggest that particular attention should be paid to efforts to reduce weight in younger patients.

Recent studies suggest that the distribution of fat deposits may be a better predictor of mortality than BMI or RW. If confirmed, it may be important in the future to measure fat distribution in addition to using height-weight tables.

4.

What are the Appropriate Uses and Limitations of Existing Height-Weight Tables?

There is consensus that a measure of obesity is needed to overcome the subjectivity introduced by simply relying on visual inspection as an estimate of obesity. Equipment for measuring height and weight, height-weight tables, and weight-related indices are widely available.

Various indices for adults are available. These can be categorized into three groups:

- Tables of average weights by height and age.
- Tables of desirable weights for height associated with lowest mortalities in insured populations.
- Indices that are derived from height and weight such as body mass index.

Extensive height-weight data (e.g., National Center for Health Statistics) are available for estimating obesity in infants and children.

Tables of Average Weights by Height and Age

These tables report cross-sectional data on a representative sample of the noninstitutionalized population living in the United States. They represent averages rather than optimal data and may be useful for descriptive purposes.

Tables of Desirable Weights by Height

These tables are based on weights associated with the lowest mortality rate among insured populations of adults. At least two versions are in current use: the 1959 Metropolitan Life Insurance Company table and the 1983 revision.

Confusion exists as a result of the slight increases in desirable weights seen in the 1983 as opposed to the 1959 tables. In the 1983 tables, desirable weights for men and women in the shortest stature groups are 12 and 14 pounds higher respectively than they were in 1959. It is recognized that such increased body weight may contribute to high blood pressure, hypercholesterolemia, and glucose intolerance or similar risk factors, apart from the impact of weight on mortality. Neither the 1959 nor the 1983 height-weight tables reflect current weight and mortality relationship for the American population, since, of necessity, the deaths reflect the mortality experiences of policyholders with a cutoff date of 11 years prior to the publication of the tables.

Uses

- Clinical: To establish the presence of obesity and the approximate degree of risk and to guide treatment.
- Educational and informational.
- Research.

Limitations

- Tables are formulated on specific populations; they may not be applicable to the entire population, particularly those of lower socioeconomic and some ethnic groups.
- The mortality and morbidity related risks of obesity are influenced by concurrent risk factors such as smoking.
- Tables do not provide information on body fat distribution or degree of obesity.
- Frame size as used for estimation of lean (fat-free) body mass is subjectively determined in the 1959 tables. The use of elbow width to judge frame size, as suggested in the 1983 tables, may or may not eliminate the problem.
- Age is not taken into account.

Body Mass Index

The body mass index

$$\text{BMI} = \frac{\text{Body wt in kg}}{(\text{Ht in m})^2}$$

is a simple measurement highly correlated with other estimates of fatness. It minimizes the effect of height and is useful for descriptive or evaluative purposes. It has the advantage of permitting comparison of populations. The major limitation of the BMI is that it is difficult to interpret this mathematical index to patients and to relate it to weight that must be lost.

The consensus panel recommends that physicians adopt this measure as an additional factor in evaluating patients and that nomograms be used to facilitate calculations of BMI.

5.

For What Medical Conditions Can Weight Reduction be Recommended?

Weight reduction may be lifesaving for patients with extreme obesity, arbitrarily defined as weight twice the desirable weight or 45 kg (100 pounds) over desirable weight. When obesity is accompanied by severe cardiopulmonary manifestations, as in the Pickwickian syndrome, weight reduction should be part of the treatment for this medical emergency.

In view of the excess mortality and morbidity associated with obesity (as discussed above), weight reduction should be recommended to persons with excess body weight of 20 percent or more above desirable weights in the Metropolitan Life Insurance Company tables (using the midpoint of the range for a medium-build person). In the 1983 tables, 20 percent over desirable weight is a higher weight than would be obtained by the use of the 1959 tables. The maximum increase is found in those of short stature and does not exceed 17 percent for men or 13 percent for women. Although not a specific recommendation of the panel, use of the lower weights as goals would be advisable in the presence of any of the complications or risk factors summarized below. The body mass index values, which correspond to 20 percent above desirable weight, are 27.2 and 26.9 for men and women, respectively, using the 1983 tables and 26.4 and 25.8 for men and women, respectively, using the 1959 tables. These values are not substantially different from the BMI values for men and women identified with the lower cutoff point for overweight as determined by the National Center for Health Statistics—27.8 and 27.3 for men and women, respectively (NHANES II population, bare feet, no clothes).

Weight reduction is also highly desirable, even in patients with lesser degrees of obesity, in many other circumstances, including the following:

- Noninsulin-dependent diabetes mellitus, a family history of diabetes mellitus, women with a history of gestational diabetes or history of birth of an infant large for gestational age.
- Hypertension (hypertension due to specific, identifiable causes such as renal artery stenosis or pheochromocytoma should be treated for those specific causes).
- Hypertriglyceridemia or hypercholesterolemia.

Weight reduction is likely to be helpful, although the benefits may not be as clear as in the circumstances listed above, in other circumstances, including:

- Coronary artery heart disease.
- Gout.

In any circumstance in which excessive weight imposes functional burdens, weight reduction may improve functioning of the affected system, organ, or region. Such conditions include many common disorders, for example:

- Heart disease of other types.
- Chronic obstructive pulmonary disease.
- Osteoarthritis of the spine, hips, or knees.

Weight reduction in the treatment of these conditions should be under the direction of a physician because accurate diagnosis is needed before treatment is started, and weight reduction may have to be accompanied by other treatments. In addition to physicians, the assistance of other health professionals is critical for treatment in any weight-reduction program. When exercise is prescribed as an adjunct to other methods of weight-reduction, assessment by a physician of the cardiopulmonary risk of exercise is especially important.

The panel views with concern the increasing frequency of obesity in children and adolescents. Obese children should be encouraged to bring their weight to within normal limits. Although childhood obesity does not necessarily lead to obesity in adulthood, there is evidence that it is a significant risk factor for adult obesity. Because dietary restriction can adversely affect parent-child relationships, eating behavior, and growth and maturation, physicians must carefully monitor any dietary restrictions.

6.

What Should be the Directions of Future Research in This Area?

It is vitally important to increase the understanding of obesity to enable prevention. Because obesity is so prevalent, any effective strategy for prevention will have public health importance. The following areas of investigation, dealing mainly with the questions addressed to this panel, are stressed:

- In infancy and childhood, we must search for biological (genetic, metabolic, or anthropometric) markers as predictors of adult obesity. Having such predictors would permit the study of the development of the disease, would provide a powerful epidemiological tool, and would allow treatment to begin very early in life.
- The factors that regulate the regional distribution of fat and methods to assess the distribution must be developed. We need to define the mechanism by which body fat distribution is associated with adverse effects of obesity.
- Regulation of energy balance is complex, but many aspects have begun to yield to investigation. Promising leads are:
  - effects of the central and autonomic nervous systems and the endocrine system.
  - adipose tissue cellularity (in tissue culture) and metabolism.
  - the role of various components of thermogenesis in the overall control of energy balance.
  - control of food intake (e.g., endogenous opioids).
  - satiety factors (e.g., gut hormones).
- Studies utilizing cultural and physical measurements in several cultures, including minority, low socioeconomic, and rapidly changing cultures, should be conducted.
- The data from large CAHD cohort studies initiated 20 to 30 years ago should be identified and archived. Archiving should be encouraged for data obtained from ongoing and future studies.
- Relative risk tables that incorporate both fat distribution and height-weight data should be developed.

Great advances of modern biological science as applied to obesity can generate new information that can now be tested at the bedside. Clinical investigation utilizing the biological advances is timely. The best of public health sciences, including the anthropological and sociological, should be brought into the study of the prevention of obesity.

Conclusions

The evidence is now overwhelming that obesity, defined as excessive storage of energy in the form of fat, has adverse effects on health and longevity. Obesity is clearly associated with hypertension, hypercholesterolemia, NIDDM, and excess of certain cancers and other medical problems. Height and weight tables based on mortality data or the body mass index are helpful measures to determine the presence of obesity and the need for treatment. Thirty-four million adult Americans have a body mass index greater than 27.8 (men) or 27.3 (women). At this level of obesity, which is very close to a weight increase of 20 percent above desirable, treatment is strongly advised. When diabetes, hypertension, or a family history for these diseases is present, treatment will lead to benefits even when lesser degrees of obesity are present.

Obesity research efforts should be directed toward elucidation of biologic markers, factors regulating the regional distribution of fat, studies of energy regulation, and studies utilizing the techniques of anthropology, psychiatry, and the social sciences.

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LOWERING BLOOD CHOLESTEROL TO PREVENT HEART DISEASE

National Institutes of Health
Consensus Development
Conference Statement
Volume 5 Number 7

INTRODUCTION AND CONCLUSIONS

Introduction

Coronary heart disease is responsible for more than 550,000 deaths in the United States each year. It is responsible for more deaths than all forms of cancer combined. There are over 5.4 million Americans with symptomatic coronary heart disease and a large number of others with undiagnosed coronary disease, many of them young and highly productive. It has been estimated that coronary heart disease costs the United States over $60 billion a year in direct and indirect costs.

Coronary heart disease is due to atherosclerosis, a slowly progressive disease of the large arteries that begins early in life but rarely produces symptoms until middle age. Often the disease goes undetected until the time of the first heart attack, and this first heart attack is often fatal. Modern methods of treatment have improved greatly the outlook for patients having heart attacks, but major progress in our battle against this number one killer must rest on finding preventive measures.

A number of risk factors have been identified as strongly associated with coronary heart disease. Cigarette smoking, high blood pressure, and high blood cholesterol are the most clearly established of these factors. Risk is greater in men, increases with age, and has a strong genetic component. Obesity, diabetes mellitus, physical inactivity, and behavior pattern are also risk factors.

A large body of evidence of many kinds links elevated blood cholesterol levels to coronary heart disease. However, some doubt remains about the strength of the evidence for a cause-and-effect relationship. Questions remain regarding the exact relationship between blood cholesterol and heart attacks and the steps that should be taken to diagnose and treat elevated blood cholesterol levels.

To resolve some of these questions, the National Heart, Lung, and Blood Institute and the NIH Office of Medical Applications of Research convened a Consensus Development Conference on Lowering Blood Cholesterol to Prevent Heart Disease on December 10–12, 1984. After hearing a series of expert presentations and reviewing all of the available data, a consensus panel of lipoprotein experts, cardiologists, primary care physicians, epidemiologists, biomedical scientists, biostatisticians, experts in preventive medicine, and lay representatives considered the evidence and agreed on answers to the following questions:

- Is the relationship between blood cholesterol levels and coronary heart disease causal?
- Will reduction of blood cholesterol levels help prevent coronary heart disease?
- Under what circumstances and at what level of blood cholesterol should dietary or drug treatment be started?
- Should an attempt be made to reduce the blood cholesterol levels of the general population?
- What research directions should be pursued on the relationship between blood cholesterol and coronary heart disease?

Panel's Conclusions

Elevated blood cholesterol level is a major cause of coronary artery disease. It has been established beyond a reasonable doubt that lowering definitely elevated blood cholesterol levels (specifically blood levels of low-density lipoprotein cholesterol) will reduce the risk of heart attacks due to coronary heart disease. This has been demonstrated most conclusively in men with elevated blood cholesterol levels, but much evidence justifies the conclusion that similar protection will be afforded in women with elevated levels. After careful review of genetic, experimental, epidemiologic, and clinical trial evidence, we recommend treatment of individuals with blood cholesterol levels above the 75th percentile (upper 25 percent of values). Further, we are persuaded that the blood cholesterol level of most Americans is undesirably high, in large part because of our high dietary intake of calories, saturated fat, and cholesterol. In countries with diets lower in these constituents, blood cholesterol levels are lower, and coronary heart disease is less common. There is no doubt that appropriate changes in our diet will reduce blood cholesterol levels. Epidemiologic data and over a dozen clinical trials allow us to predict with reasonable assurance that such a measure will afford

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significant protection against coronary heart disease.

For these reasons we recommend that:

1. Individuals with *high-risk blood cholesterol levels* (values above the 90th percentile) be treated intensively by dietary means under the guidance of a physician, dietitian, or other health professional; if response to diet is inadequate, appropriate drugs should be added to the treatment regimen. Guidelines for children are somewhat different, as discussed below.
2. Adults with *moderate-risk blood cholesterol levels* (values between the 75th and 90th percentiles) be treated intensively by dietary means, especially if additional risk factors are present. Only a small proportion should require drug treatment.
3. All Americans (except children under 2 years of age) be advised to adopt a diet that reduces total dietary fat intake from the current level of about 40 percent of total calories to 30 percent of total calories, reduces saturated fat intake to less than 10 percent of total calories, increases polyunsaturated fat intake but to no more than 10 percent of total calories, and reduces daily cholesterol intake to 250 to 300 mg or less.
4. Intake of total calories be reduced, if necessary, to correct obesity and adjusted to maintain ideal body weight. A program of regular moderate-level exercise will be helpful in this connection.
5. In individuals with elevated blood cholesterol, special attention be given to the management of other risk factors (hypertension, cigarette smoking, diabetes, and physical inactivity).

These dietary recommendations are similar to those of the American Heart Association and the Inter-Society Commission for Heart Disease Resources.

We further recommend that:

6. New and expanded programs be planned and initiated soon to educate physicians, other health professionals, and the public to the significance of elevated blood cholesterol and the importance of treating it. We recommend that the National Heart, Lung, and Blood Institute provide the focus for development of plans for a National Cholesterol Education Program that would enlist participation by and contributions from all interested organizations at national, state, and local levels.
7. The food industry be encouraged to continue and intensify efforts to develop and market foods that will make it easier for individuals to adhere to the recommended diets and that school food services and restaurants serve meals consistent with these dietary recommendations.
8. Food labeling should include the specific source or sources of fat, total fat, saturated and polyunsaturated fat, and cholesterol content as well as other nutritional information. The public should be educated on how to use this information to achieve dietary aims.
9. All physicians be encouraged to include whenever possible a blood cholesterol measurement on every adult patient when that patient is first seen; to ensure reliability of data, we recommend steps to improve and standardize methods for cholesterol measurement in clinical laboratories.
10. Further research be encouraged to compare the effectiveness and safety of currently recommended diets with that of alternative diets, to study human behavior as it relates to food choices and adherence to diets, to develop more effective, better tolerated, safer, and more economical drugs for lowering blood cholesterol levels, to assess the effectiveness of medical and surgical treatment of high blood cholesterol levels in patients with established clinical coronary artery disease, to develop more precise and sensitive noninvasive artery imaging methods, to apply basic cell and molecular biology to increase our understanding of lipoprotein metabolism (particularly the role of HDL as a protective factor) and artery wall metabolism as they relate to coronary heart disease.
11. Plans be developed that will permit assessment of the impact of the changes recommended here as implementation proceeds and provide the basis for changes when and where appropriate.

1.

Is the Relationship Between Blood Cholesterol Levels and Coronary Heart Disease Causal?

The evidence supporting a causal relationship between blood cholesterol levels and coronary heart disease comes from a wealth of congruent results of genetic, experimental pathologic, epidemiologic, and intervention studies. These data establish beyond any reasonable doubt the close relationship between elevated blood cholesterol levels (as measured in serum or plasma) and coronary heart disease. At the same time, it is equally clear that an elevated blood cholesterol level is not the only cause of coronary heart disease. Hypertension, cigarette smoking, diabetes mellitus, obesity, and physical inactivity along with a number of other risk factors such as age, sex, and family history are important contributing causes. There probably are other undiscovered contributing causes. However, we shall confine ourselves here primarily to a discussion of elevated blood cholesterol.

It is now firmly established that all cholesterol is carried in the bloodstream in several protein-lipid combinations known as lipoproteins and that most of the blood cholesterol in humans is carried by specific low-density lipoproteins (LDL). Some is also present in high-density lipoproteins (HDL) and in very low-density lipoproteins (VLDL). The LDL particles, when present in excess in the blood, are deposited in the tissues and form a major part of a buildup in the artery wall to form atherosclerotic plaque. Atherosclerosis narrows the channels of the coronary arteries, the vessels that furnish the major blood supply to the heart muscle.

Genetic Evidence

Severe coronary heart disease can result from high blood cholesterol levels in the absence of any other contributing risk factors. This is clearly demonstrated by the accelerated and clinically catastrophic coronary heart disease in children with inherited hypercholesterolemia in its most severe form. These children lack the specific receptor that normally removes LDL from the blood, and as a result, they have very high LDL cholesterol levels from birth. They frequently suffer severe coronary heart disease, and death may occur even in childhood. Careful study of these diseased arteries reveals large quantities of cholesterol in the plaques.

The LDL receptor normally plays a critical role in regulating blood cholesterol levels in all mammals, including humans. It has been purified and fully characterized.

Studies suggest that a number of cases of clinically important coronary heart disease with less severe elevations of blood cholesterol may be explained by partial deficiencies of functioning LDL receptors, deficiencies induced by dietary and lifestyle factors. Thus, the high blood cholesterol in these patients has a similar basis to that in inherited hypercholesterolemia and, while less severe, probably has the same implications.

Experimental Pathology (Animal Model) Evidence

With improved use of the many existing animal models, a number of very important relationships between blood cholesterol, atherosclerosis, and coronary heart disease have been demonstrated.

- Many species (including several nonhuman primates) develop atherosclerosis when fed diets that raise their blood cholesterol levels.
- Studies over time demonstrate that hypercholesterolemic monkeys (and other species) develop arterial lesions that progress from fatty streaks to typical raised plaques to complicated ulcerated plaques resembling those seen in humans suffering from coronary heart disease.
- Hypercholesterolemia augments experimental atherosclerosis when arterial "injury" is present.
- Severe atherosclerosis in rhesus monkeys, usually a progressive process, regresses when the blood cholesterol is lowered substantially for an extended period by diet or by drugs.

Animal studies thus offer strong and persuasive evidence supporting the causal relationship between blood cholesterol and atherosclerosis.

Epidemiologic Evidence

A large body of epidemiologic evidence supports the direct relationship between blood cholesterol levels and coronary heart disease.

- Comparisons among various populations throughout the world reveal a direct correlation between blood cholesterol levels and the occurrence of coronary heart disease; no population has been reported with a high rate of coronary heart disease and low blood cholesterol levels.
- People who have migrated to another country with a higher average blood cholesterol level gradually acquire the dietary habits, blood cholesterol concentration, and coronary heart disease rates of their new country of residence.
- Severity and frequency of raised plaques in the aorta and coronary arteries are strongly correlated with blood cholesterol levels.
- Populations experiencing severe dietary (especially fat) limitations and weight loss have been shown to have less atherosclerosis, coronary heart disease, and fewer heart attacks.
- Prospective studies such as the Framingham study have shown that elevated blood cholesterol levels in healthy people predict the future occurrence of coronary heart disease.
- Evidence emerging from multiple clinical trials, reviewed in the next section, clearly indicates that lowering blood cholesterol levels in patients with hypercholesterolemia decreases the likelihood of fatal and nonfatal coronary heart disease.

Thus, the evidence obtained from genetic, experimental, epidemiologic, and clinical intervention investigations overwhelmingly supports a causal relationship between blood cholesterol levels and coronary heart disease.

2.

Will Reduction of Cholesterol Levels Help Prevent Coronary Heart Disease?

Our conclusion that reduction of blood cholesterol levels **will** reduce the rate of coronary heart disease is based partly on the evidence for cause-and-effect presented above and partly on the direct evidence from clinical trials noted below.

First, metabolic ward studies establish beyond reasonable doubt three dietary maneuvers that lower blood cholesterol levels: reducing the saturated fat content, increasing the polyunsaturated fat content, and reducing the cholesterol content. Second, a number of drugs have been developed that lower blood cholesterol levels. The issue of whether these interventions also influence coronary heart disease events has been more challenging.

In previous years, more than a dozen randomized trials of the effects of fat-controlled diets or drugs have been reported. Most showed some decrease in coronary heart disease event rates in the treated group, and the dietary trials carried out by Dayton *et al.* and by Leren *et al.* were particularly suggestive, producing 23 percent and 35 percent reductions in the incidence of coronary heart disease. However, no study considered individually could be regarded as conclusive: the sample sizes were too small, and there were in some cases unanticipated increases in non-cardiovascular deaths, although these were not statistically significant. An aggregate analysis of all unifactor blood-cholesterol-lowering trials, while not revealing an effect on total mortality, does indicate that coronary heart disease rates can be reduced by reduction of blood cholesterol levels.

These findings have been extended by two recently reported randomized and blinded clinical trials of the efficacy of the cholesterol-lowering drug, cholestyramine. One of these studies, the Lipid Research Clinics Coronary Primary Prevention Trial, showed a statistically significant 19 percent reduction in the combined rate of fatal and nonfatal coronary heart disease in association with a 9 percent decrease in blood cholesterol level. The other study, the NHLBI Type II Coronary Intervention Study, showed a reduction in the angiographic progression of coronary artery disease. In addition, a third trial (the Coronary Drug Project) has recently presented information extending the earlier published finding that the use of nicotinic acid lowers the rate of recurrent coronary heart disease by demonstrating in long-term followup a decrease in overall mortality.

These findings, taken in conjunction with the results of the earlier studies, permit the conclusion that reduction of blood cholesterol level in people with relatively high initial levels will reduce the rate of coronary heart disease. The clinical trials are too limited to settle the issue of effects on overall mortality. However, the complete set of evidence, which includes information derived from animal, pathophysiological, metabolic and epidemiologic studies, makes it reasonable to presume that the reduction in coronary heart disease incidence will be accompanied by a reduction in overall mortality.

The magnitude of the reduction in coronary heart disease risk can be estimated from these clinical trials; they indicate that each 1 percent reduction in blood cholesterol level yields approximately a 2 percent reduction in coronary heart disease rates. This is remarkably similar to the magnitude of the beneficial outcome predicted from observational epidemiologic studies. Thus, for example, a 5 percent reduction in blood cholesterol level resulting from the diets recommended below should reduce coronary heart disease rates by 10 percent. The absolute magnitude of this benefit should be greater in patients at high risk because of existing coronary heart disease or the presence of other risk factors such as cigarette smoking and hypertension. Reductions in disease rates of as much as 50 percent may be achievable in high-risk cholesterol patients who adhere well to a combination of effective drug treatment and a fat-controlled diet.

3.

Under What Circumstances and at What Level of Blood Cholesterol Should Dietary or Drug Treatment Be Started?

What Is Hypercholesterolemia?

A precise definition of hypercholesterolemia (an abnormally high blood cholesterol level) is difficult to establish. Often, an abnormally high level of a biologic substance is considered to be that level above which are found the upper 5 percent of the population (the 95th percentile). However, the use of this criterion in defining "normal" values for blood cholesterol levels in the United States is unreasonable; coronary heart disease is our major cause of death and, in part at least, because a large fraction of our population probably has too high a blood cholesterol level. A review of available data suggests that levels above 200 and 230 mg/dl are associated with an increased risk of developing premature coronary heart disease. It is staggering to realize that this represents about 50 percent of the adult population of the United States. The consensus panel has chosen to define two levels of hypercholesterolemia, both of which are associated with an increased coronary heart disease risk, and both of which should be treated.

High-Risk Blood Cholesterol (Severe Hypercholesterolemia)

This category is defined as values at approximately the 90th percentile or above as determined by the Lipid Research Clinics Prevalence Study (see table for guidelines). It will include individuals with hereditary forms of high blood cholesterol and will require the most aggressive treatment. Withholding treatment subjects these individuals to unnecessary risk.

Moderate-Risk Blood Cholesterol (Moderate Hypercholesterolemia)

This category is defined as values approximately between the 75th to 90th percentiles (see table for guidelines). It includes large numbers of people whose elevated blood cholesterol is due, in part, to their diet. The intensity of treatment is guided by the clinical and family history and the presence of other risk factors predisposing to coronary heart disease.

Values for Selecting Adults at Moderate and High Risk Requiring Treatment

(See special guidelines for management of children below.)

Age	Moderate Risk	High Risk
20–29	Greater than 200 mg/dl (5.17 mM)	Greater than 220 mg/dl (5.69 mM)
30–39	Greater than 220 mg/dl (5.69 mM)	Greater than 240 mg/dl (6.21 mM)
40 and over	Greater than 240 mg/dl (6.21 mM)	Greater than 260 mg/dl (6.72 mM)

How Should Adults With Hypercholesterolemia Be Treated?

The presence of high-risk and moderate-risk blood cholesterol should be confirmed by a repeat analysis. Although the initial sample may be obtained nonfasting, the repeat analysis should be obtained after an overnight fast so that a valid triglyceride level also can be determined.

After the secondary causes for hypercholesterolemia (e.g., hypothyroidism, nephrotic syndrome, dysproteinemias, diabetes mellitus, and obstructive liver disease) have been excluded, the primary cause should be evaluated. This includes family screening to detect the hereditary forms of elevated blood cholesterol and to identify other family members needing treatment. Measurement of HDL cholesterol is often helpful to determine if the elevated blood cholesterol is due to high levels of HDL (which is associated with a lower risk of coronary heart disease). In addition, a low HDL cholesterol (an independent risk factor) might guide a physician to be more aggressive in treatment of individuals with high or moderately high blood cholesterol.

Diet Therapy

The first step in the treatment of high-risk and moderate-risk blood cholesterol is diet therapy and caloric restriction for weight normalization in the overweight. Weight loss may reduce blood cholesterol, and a moderate level of physical exercise may be helpful in this regard. The dietary approach should be to lower total fat, saturated fat, and cholesterol consumption. The following guidelines are generally consistent with those of the American Heart Association and the Atherosclerosis Study Group of the Inter-Society Commission for Heart Disease Resources. We recommend a diet composed of approximately 30 percent of the caloric intake from fats and no more than 250 to 300 mg of cholesterol a day. An essential consideration is a reduction of the total saturated fat intake to 10 percent or less of total calories. It is recommended that polyunsaturated fat intake be increased but to no more than 10 percent of total calories. These changes can be readily made while maintaining intake of protein, vitamins, and minerals to satisfy the Recommended Dietary Allowances of the Food and Nutrition Board of the National Research Council.

Insufficient response to this diet may necessitate further restrictions of total fat to 20 to 25 percent of calories with saturated fat comprising 6 to 8 percent of the calories. The dietary cholesterol should be lowered to 150 to 200 mg/day (equivalent to American Heart Association Phases II and III diets).

The use of diet as a primary mode of therapy requires a major effort on the part of physicians, nutritionists, dietitians, and other health professionals. Lifestyle changes are difficult without adequate instruction, motivation, and encouragement. Education of physicians, as well as the general public, as to the value of reductions in dietary saturated fat and cholesterol will assist not only with treatment of patients with high- or moderate-risk blood cholesterol but also in achieving the goal of reducing the blood cholesterol levels of our entire adult population to less than 200 mg/dl (less than 180 mg/dl in those under age 30).

Drug Therapy

Drug therapy should be used only after a careful trial of diet modification using the most rigorous diet appropriate for the particular individual. Even when drugs seem appropriate, it is important to stress that maximal diet therapy should be continued. Several drugs, used singly or in combination, are now available. These include the bile-acid sequestrants (cholestyramine and colestipol), nicotinic acid, probucol, and the fibric acids (clofibrate and gemfibrozil). Of these, bile-acid sequestrants and nicotinic acid have been shown to reduce coronary heart disease. Clofibrate, while effective in treating one rare familial form of lipid abnormality (Type III hyperlipoproteinemia), is not recommended because it is not effective in most individuals with a high blood cholesterol level but normal triglyceride level. Moreover, an excess overall mortality was reported in the World Health Organization trial of this drug. We still do not have direct evidence for the safety of any cholesterol lowering drugs when given over decades; therefore, drug treatment should be undertaken cautiously and its desirability should be periodically reevaluated, particularly in children.

Individuals with high-risk blood cholesterol (severe hypercholesterolemia), especially those with the hereditary form, may well require drug therapy in addition to dietary modification. Combined drug treatment (e.g., bile acid sequestrant plus nicotinic acid) may be particularly effective. Several combined treatment regimens are under study. Individuals with moderate-risk blood cholesterol will usually respond adequately to diet alone. Judgment on the decision to use drugs in such patients must be made on a case-by-case basis, taking into account family history of coronary heart disease, existing coronary disease in the individual, coexistence of other risk factors, and age of the individual.

Who Should Be Treated?

As described above, individuals with high- and moderate-risk cholesterol levels (greater than the 75th percentile) should be treated with diet or diet and drugs. Furthermore, it is clearly recognized that it is a goal to encourage reduction of the blood cholesterol to approximately 180 mg/dl for adults under the age of 30 years and to approximately 200 mg/dl for individuals age 30 or older. This is recognized as a realistic "target" level that should be possible to achieve and that would be predicted to have a beneficial effect on coronary heart disease risk. As will be discussed in the following section, it is recommended that all individuals in the population consume a diet composed of approximately 30 percent of the calories as fat (10 percent or less saturated fat) and 250 to 300 mg of cholesterol a day in an attempt to shift the blood cholesterol levels in our population toward the lower levels observed in populations having much lower rates of coronary heart disease.

Both men and women at high risk, as defined above, should be treated similarly, even though premenopausal women have an apparent protection, and the onset of the disease occurs later than in men. However, as in men, the leading cause of death in women is coronary heart disease, and blood cholesterol is a risk factor. Despite the fact that direct intervention studies have not been conducted in women, there is no reason to propose a separate treatment schedule for women.

Studies are available that indicate a beneficial effect of treating high cholesterol levels in individuals with preexisting clinical disease (secondary intervention) as well as in individuals without preexisting clinical disease (primary intervention). Because of their vulnerability, patients with established disease, including particularly patients with coronary bypass grafts, should be intensively treated. It is encouraging that the progression of established lesions may be retarded by appropriate dietary and drug therapy. The same may apply to the elderly patient. While there is no direct evidence on the benefit to be expected in the elderly, and while blood cholesterol becomes less important as a risk factor in old age, dietary treatment (with due attention to ensure nutritional adequacy) may still be helpful.

Special Guidelines for Management of Children

Identifying and treating children with elevated blood cholesterol levels is a subject for special consideration. It is desirable to begin prevention in childhood because patterns of lifestyle are developed in childhood. The moderate-fat and moderate-cholesterol diets recommended for the population at large in this report should be suitable for all family members, including healthy children over the age of 2 years. For children, the diets should provide all nutrients in quantities adequate to assure growth and development and meet energy requirements. Excessive gain in weight should be avoided. The diet may be inappropriate in children or in the elderly if they are malnourished or have special nutritional requirements. For others, the diet plan is safe and nutritionally adequate.

Children at "high-risk" should be identified primarily by carefully obtained family histories rather than routine screening. The history should include parents, grandparents, and all first-degree relatives. A family history of hypercholesterolemia or premature coronary heart disease should alert the physician to obtain at least two blood cholesterol determinations. If the blood cholesterol level in such "high-risk" children is above the 75th percentile (approximately 170 mg/dl for ages 2 to 19 years), total and HDL cholesterol should be obtained. Those children with blood cholesterol levels between the 75th and 90th percentile (170 to 185 mg/dl) should be counseled regarding diet and other cardiovascular risk factors and then followed at 1-year intervals. Those with levels above the 90th percentile (over 185 mg/dl) require special dietary instruction and close supervision with evaluation of other risk factors. A child with a blood cholesterol level above the 95th percentile (greater than 200 mg/dl) on two occasions is in a special category and may have one of the hereditary hypercholesterolemias. Strict dietary intervention is indicated and will be sufficient for many children. Nonresponders should be considered for treatment with a lipid-lowering agent, e.g., bile-acid sequestrant (such as cholestyramine). All family members should be screened.

Dietary management of children with elevated blood cholesterol levels should be part of total management that includes regular exercise programs, maintenance of ideal weight, avoidance of excess salt and avoidance of cigarette smoking.

What Screening Strategy Should Be Adopted for Finding Subjects With High Blood Cholesterol?

According to data from the National Center for Health Statistics, a high percentage of the American population sees a physician at least once every year. If a cholesterol level were determined on adults at these visits, many of the individuals with cholesterol levels above the 75th percentile would be identified in a relatively short time and should be evaluated and treated as described above. This physician- and clinic-oriented method for screening would be cost-effective. Obviously, some patients may not see a physician for several years, and it would be advisable to educate the public to the importance of knowing one's cholesterol level. In children, only a "family history screening" is recommended, that is, cholesterol levels should be obtained in those at higher risk because of a strong family history, as discussed above. Educational programs developed by voluntary and public health organizations in conjunction with the National Cholesterol Education Program of the National Heart, Lung, and Blood Institute, as recommended by this consensus panel, should alert all adults to the advisability of learning their cholesterol level.

While we are not at this time recommending mass screening, a feasibility study of various screening methods in adults should be considered. Screening necessitates the availability of laboratories capable of determining precisely and accurately the blood cholesterol and HDL cholesterol levels and of physicians willing and able to manage large numbers of new patients. Thus, preliminary steps are needed before mass screening can be considered.

4.

Should an Attempt Be Made to Reduce the Blood Cholesterol of the General Population?

Rationale for Recommendations to the General Population

Many compelling lines of evidence link blood cholesterol to coronary heart disease. There is also good evidence from epidemiologic studies that the relationship between level of cholesterol and level of risk for coronary heart disease covers virtually the entire cholesterol distribution for the U.S. population. In fact, recent epidemiologic studies suggest that the relationship holds even at the lower end of the spectrum of cholesterol levels found in our population.

The Japanese population, in comparison with the U.S. population, is characterized by a much lower average cholesterol level and a much lower frequency of coronary heart disease. The Finnish, on the other hand, have a much higher average cholesterol level and a much greater risk of coronary heart disease than do U.S. citizens. Furthermore, Japanese who have migrated to Hawaii and to San Francisco have higher cholesterol levels and a higher risk of coronary heart disease than nonmigrants. Compilation of all the available data suggests that it will be beneficial to lower the blood cholesterol of the average American.

In recent years, Americans have been changing their habitual diet in the direction we recommend, that is, by reducing their intake of total fat, saturated fat, and cholesterol and by increasing intake of polyunsaturated fat. This has been accompanied by a substantial reduction in the average blood cholesterol of the population. In addition, all-cause mortality, cardiovascular mortality, and coronary heart disease mortality have also decreased, but it is difficult to determine with certainty how much, if any, of this decrease is due to changes in diet, blood pressure, cigarette usage, or improved medical care. It is hoped that improved surveillance systems will clarify these issues.

Recommendations

In the general population, the basic intervention should be based on diet rather than drugs. We recommend a shift from the current typical American diet to one that is lower in total fat, saturated fat, and cholesterol. Diets with these characteristics are the usual diets consumed in a number of other countries, e.g., Japan and Greece. Life expectancy in these two countries is, at virtually every age, greater than that in the United States. This applies also to the life expectancy in middle age, when mortality from coronary heart disease begins to rise sharply.

The evidence justifies for men, women, and children ages 2 years and older the reduction of calories from fat from the present average level of 40 percent to 30 percent, calories from saturated fat to 10 percent or less, and dietary cholesterol to no more than 250 to 300 mg daily. We recommend that calories from polyunsaturated fat be increased, but not exceed 10 percent of total calories. This diet is generally consistent with the most recent recommendations of the American Heart Association and the Atherosclerosis Study Group of the Inter-Society Commission on Heart Disease Resources. Equally important, individuals, health professionals, and health agencies must recognize the need to control obesity both to aid in controlling blood cholesterol levels and to reduce the other health risks of obesity. Other elements important to the prevention of cardiovascular disease, including avoidance of cigarettes, control of high blood pressure, and maintenance of reasonable levels of physical activity are recommended.

Means of Implementing Dietary Recommendations in the General Population

- If dietary intervention in the general population is to be effective, the eating habits of the entire family must be changed. Thus, the recommended diet should be available to all family members except those under age 2.
- Educational services that enable adults and children to make informed choices concerning their eating habits should be readily available, including ready availability of data on composition of natural and processed foods.
- Professional educational programs for physicians, dietitians, and other health professionals should be expanded to include adequate material on diet and heart disease.
- Specific food items consistent with the recommended diet should be available, accessible, and affordable.
- The food industry should accelerate its current efforts to develop, produce, and market leaner meats and other foods, including dairy products, with reduced total fat, saturated fat, and cholesterol content.
- Restaurants, including fast-food outlets, should make foods satisfying these diet recommendations available to their customers.
- Government and school food programs should serve meals consistent with these recommendations.
- Food labeling should include total calories, fat source and total fat, saturated fat, polyunsaturated fat, and cholesterol content as well as other essential nutritional information. If necessary, appropriate statutory or other changes to require such labeling should be seriously considered.
- A national cholesterol education program should be implemented for physicians, other health professionals (including those in training) and the public; its effectiveness should be periodically evaluated.

5.

What Research Directions Should Be Pursued on the Relationship between Cholesterol and Heart Disease?

We know that blood cholesterol is causally related to coronary heart disease and that the atherosclerotic process can be influenced by intervention. However, much about lipid metabolism and about the mechanisms of the atherosclerotic process remains unknown.

- *Cellular and Molecular Biology*—A better understanding of lipoprotein production and removal, lipoprotein receptors, and apolipoproteins is needed. More information is needed with regard to factors controlling the level of HDL and its role in preventing coronary heart disease. To learn whether diets very high in polyunsaturated fatty acids have any adverse effects, more information is needed regarding their biochemical and biological effects, including those of the highly unsaturated fatty acids found in fish oils. Research is also needed on the biology of vessel wall injury, on the cells that participate in atherosclerosis, and on the events that trigger thrombosis in atherosclerotic vessels.
- *Clinical Investigation*—Precisely defined diets and pharmacologic interventions to reduce blood cholesterol and other lipids must be studied in individuals under carefully controlled conditions. Research on the effectiveness of regimens to lower blood cholesterol and influence atherosclerosis, including surgical intervention, should also be conducted. Evaluation of these may involve atherosclerotic plaque measurement using safe, precise imaging techniques such as ultrasound, regional radioscintigraphy, magnetic resonance, and/or computer-enhanced radiography.

- *Pharmacologic Research*—New compounds that are more effective, economical, and safe for the reduction of blood cholesterol are needed. Development of improved, more palatable, and less expensive bile-acid sequestrants also is needed. Similarly, a search for pharmacologic agents that would favorably influence other elements of the atherosclerotic process is highly desirable.
- *Food Product Research*—The interface of human nutrition and human disease requires collaborative efforts within the agricultural, industrial, and health research communities. More food products that are high in nutritional quality and taste, yet low in fat and cholesterol, need to be developed.
- *Research in Human Behavior*—Study of how people choose their diets and how food habits can be improved are necessary. Studies designed to measure and enhance adherence to new nutritional behaviors and treatment programs are needed.
- *Epidemiologic Investigation*—The search for additional factors that initiate or affect the atherosclerotic process must be continued along with further studies of risk factors in major population subgroups, including blacks. As nutritional practices of the population change and as health professionals improve management of elevated blood cholesterol levels, ongoing monitoring of nutritional patterns, blood cholesterol levels, and disease and death outcomes is essential. An important corollary will be monitoring to assess disease incidence, prevalence, and case fatality rates. Research to assess the effects of blood cholesterol reduction on cardiovascular and all-cause mortality is needed. Overall safety of long-term intervention with diet and drugs should be investigated.
- *Secondary Prevention*—The effectiveness of lowering blood cholesterol by medical or surgical intervention to retard or reverse atherosclerotic lesions in arteries or bypass grafts of patients with established coronary heart disease requires further investigation.
- *Community Applications*—Community demonstration research to test the effectiveness of nutrition-educational programs that influence food choices and other risk-factor behaviors of the healthy free-living population is needed.

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The Conference Was Sponsored by:

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Mr. WALGREN. Thank you, Dr. LaRosa.
Dr. Johnson.

STATEMENT OF DR. STANLEY R. JOHNSON, PROFESSOR OF ECONOMICS AND DIRECTOR OF THE CENTER FOR AGRICULTURAL AND RURAL DEVELOPMENT, IOWA STATE UNIVERSITY, AMES, IA

Dr. JOHNSON. Mr. Chairman and other members, I am pleased to have the opportunity to comment on H.R. 2436. I am a professor of economics and director of the Center for Agricultural and Rural Development at Iowa State University. In addition, I have had experience in utilizing particularly the Nationwide Food Consumption Survey data in analyzing parameters associated with food assistance programs in the United States. Finally, I am a member of the Joint Nutrition Monitoring Evaluation Committee.

I have prepared remarks which will be submitted. I would like to summarize those remarks very briefly.

There are really four points that are addressed in the remarks. The first point, which has been reiterated already a number of times, relates to the importance of the national nutrition monitoring system, the stakes, economically and otherwise, in a strong nutrition policy, and the fact that it is important that the Congress and the departments of the U.S. Government have an active role in improving this system.

As I read the bill, I was asking myself why is the bill in existence. I believe the reasons for that are indicated in the preliminary parts of the bill. Specifically, it appears that there is broad frustration and concern about the timeliness of the monitoring system, the scope of the system and many other of its aspects.

One should recognize that the system we have is very good compared to any countries of the world and is, therefore, one that we are seeking improvements for in an already good system. At the same time, there is concern about timeliness, comparability, and other factors associated with the nutrition monitoring system. These concerns have been expressed by others as well.

The second observation that I had as I looked at the bill concerned why it is that the system, as it currently performs, is generating these kinds of concerns. They relate, I believe, to three factors. The first factor is that there is very broad participation in the national nutrition monitoring system.

The bill speaks to the U.S. Department of Agriculture and the Department of Health and Human Services. If one were to analyze the budgets that are allocated to improvement of the nutrition monitoring system, directly or indirectly, including research programs at land-grant institutions associated with the development of standards, research by private industry, alternative data bases, it is important to recognize, I believe, that the National Government has an important stake in nutrition monitoring but that much of the information on which the system resides is generated in areas in which the National Government really has little control or very indirect kind of control.

There are very diverse participants in this process and, in my view, to develop a policy that orients the control of the system directly in the Department of Health and Human Services or the USDA would be a mistake.

Instead of the management provisions that are in the bill, it might be worthwhile to consider looking at the national nutrition monitoring system and the way that the Federal Government can become involved and manage the system in a slightly different way. The tone of the bill, in my opinion, orients toward management and control. That is to say, it emphasizes the fact that the system needs central control.

This would be an appropriate approach if the budget and the agencies involved really controlled or had the potential to control the entire nutrition monitoring system. In fact, they don't. Therefore, it seems to me that an alternative approach would be to emphasize the leadership of the Federal Government or the ways in which the Federal Government could provide leadership for improvement of the system.

This leadership could take the form of committees of the type that have already been appointed. It could also take the form of increased financial funding of other participants in the system.

So, my major concern with the bill as it is currently drafted is related to the fact that it is focusing on management, but, unfortunately, management in a situation where many of the resources that are available to address the national nutrition monitoring system cannot be managed by those who are to be given the responsibility.

Therefore, I would recommend that some consideration be given to using committees broadly representing both the two departments of the Federal Government and the land-grant institutions, other research institutions that are generating information for the nutrition monitoring system, and that an organization for improvement of the national nutrition monitoring system that recognizes the diverse interests of these different agencies and research groups be introduced.

In summary, it seems that there are really three ways that one could go. One would be to perhaps set up an independent agency that would be involved in national nutrition monitoring. It would be free of the baggage that the USDA or the Department of Health and Human Services might have in operating the program relative to their specific interests. On the other hand, it seems that maybe one thing we don't need is another department in Government.

A second approach would be to, as the bill suggests, coordinate the management out of one Federal agency, but one must understand that these data are used for many different purposes and the department is naturally going to be concerned with its charge and not the charge of the other departments and, in fact, the other participants in the national nutrition monitoring system.

Finally, it seems to me that some sort of long-range planning process with a committee structure, somewhat different than the one that is currently operating, might be quite attractive. The joint implementation plan was really drafted largely by the U.S. Department of Agriculture and the Department of Health and Human Services. It focuses, therefore, in great detail on how they are involved in the process but not how the other participants in the nutrition monitoring system should participate. Therefore, I would recommend a broad committee that would represent both the Government involvement in the national nutrition monitoring system, private involvement in the national nutrition monitoring system, and the broad research base that exists in the universities and other special agencies in the country.

Thank you very much.

[The prepared statement of Dr. Johnson follows:]

Prepared Testimony

Hearings on H.R. 2436

"National Nutrition Monitoring and Related Research Act of 1985"

Stanley R. Johnson*

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The Nutrition Monitoring System of the United States is operated primarily by the Department of Health and Human Services (DHHS) and the United States Department of Agriculture (USDA). In addition, research supported by the college and university system, non-profit organizations, and the private sector contributes importantly to the National Nutrition Monitoring System. This research expands the information base for monitoring through data collection on the U.S. population and perhaps, more importantly, enhances the conceptual basis for developing and implementing monitoring methods and standards. This nutrition monitoring system, broadly conceived, is without precedent in other countries and a valuable resource for food and nutrition policy nationally, at other levels of government and, of course, for families and individuals as well.

The National Nutrition Monitoring System has received increased attention by the Congress and DHHS and USDA, especially since the mandate for a plan to organize and improve the system that was in The Food and Agricultural Act of 1977. The mandate of 1977, subsequent interest in the Congress and within DHHS and USDA and more generally, an increased awareness of the importance of nutritional status and nutrition related health problems is well justified scientifically and from a policy viewpoint. The scientific basis for nutrition monitoring is improving. The U.S. population is older and more health conscious. Budgets for food assistance and health programs are high. And, importantly, the high social cost of "differed action" -- dealing with nutrition and nutrition related performance and health problems after the fact rather than with more enlightened preventive food, nutrition and health policies -- is becoming more apparent.

The continuing interest of the Congress in improving the National Nutrition Monitoring System is to be applauded. For this reason, it is difficult to find fault with H.R. 2436 - the "National Nutrition Monitoring and Related Research Act of 1985." The interest of the Congress and the public in nutrition monitoring and nutrition related health and performance problems should be encouraged. Still, there are important problems with H.R. 2436, problems that could check the progress that already made in developing and implementing the National Nutrition Monitoring System. It is the purpose of this statement to comment constructively on problems with the management provisions of H.R. 2436, recognizing that the issue is to plan and implement an information system that will be critical to our national welfare and our own personal well-being in the future.

Why the Bill?

The rationale for H.R. 2436 is implied in section 2, "Findings." Generally, these findings suggest inadequacies of the National Nutrition Monitoring System as currently operated by the federal government. Most of these inadequacies point to the need for improving the scientific foundations for nutrition monitoring, the coordination of federal monitoring efforts, the availability of information generated by the federal monitoring system, and the discrimination of information for use with food, nutrition and health policy design and evaluation at federal and other governmental levels.

These findings could and likely will be interpreted as criticisms of the two agencies DHHS and USDA primarily responsible for the system as provided by the Joint Implementation Plan for the National Nutrition Monitoring System they submitted to Congress in 1978. However, the implied criticisms and perhaps the USDA and DHHS responses should be interpreted within the broader missions of the two departments. Neither agency has as its principal function the development and operation of the National Nutrition Monitoring System. And, in fact, the data collected in the two surveys that are the major information sources for the monitoring system are applied by DHHS and USDA for many other purposes. The result is that the national nutrition monitoring effort of USDA and DHHS, if viewed independently of other agency responsibilities and other used of the NHANES and NFCS survey data, appears uncoordinated and perhaps even inefficiently managed. However, to come to this conclusion is to greatly oversimplify the responsibilities of DHHS and USDA and, as importantly, to overemphasize the role presently or in the future of the federal government in the development of the National Nutrition Monitoring System.

To conclude, many of the reasons advanced to rationalize the H.R. 2436 appear to evolve from an very narrow view of the responsibilities of DHHS and USDA and a presumption of an unreasonably large federal role in the National Nutrition Monitoring System. The participants in the development of the scientific base for the System and even in collecting data on the U.S. population are many and quite diverse. The users of the survey data of DHHS and USDA are equally diverse. The federal government can "lead" the nutrition monitoring system with funding and the creation of specialized national level data bases such as NHANES and NFCS but it cannot "control" the system. Why then should a management approach designed to improve control be the major feature of the bill?

Examples of Diversity

The essential argument of this response to H.R. 2436 is that the appropriate legislation should build on ideas of federal leadership and not federal control of the National Nutrition Monitoring System. The reason for not supporting the management approach outlined in H.R. 2436 is diversity - diversity in users of the two surveys (NFCS and NHANES) that are centerpieces of the National Nutrition Monitoring System, diversity in functions of DHHS and USDA and diversity in contributors and/or participation in the design and implementation of the nutrition monitoring system. Selected examples of these types of diversity along with a few comments on implications for the National Nutrition Monitoring System are supplied. These examples are from personal experience and not intended to be exhaustive.

Food Assistance Programs (Users): Many of the parameters used in the food assistance programs of USDA are based on analyses of data from the NFCS. Allottment levels, bonus levels and adjustments for household size are important to the Food Stamp Program, for example. In addition, the NFCS and related surveys have been used for analyzing participation, eligibility and the incidence of Food Stamp Program benefits. The Food Stamp Program affects almost one-tenth of the U.S. population and has an annual cost of about 12 billion dollars. Clearly, the USDA must concern itself with Administration food assistance programs as well as nutrition monitoring in the design and processing of the NFCS.

Demand and Consumption Parameters (Users): The agricultural experiment stations have a large regional research project on consumer demand analysis. Many of the land grant institutions participate in the regional project. The project supports research on consumer demand used in tests of economic theory and in the design and evaluation of farm programs and food policies. The NFCS and NHANES data have been used by these researchers for wide ranging policy analyses and more theoretical works. As clients of USDA and DHHS data bases, these researchers are continually requesting special inclusions in the surveys and specialized processing of the data, not directly related to nutrition monitoring.

Food Processing and Distribution (Users): The food processing and distribution industry is an important user of the NFCS and other survey data in product development, marketing and other research activities. Firms in the food processing and distribution industry depend on the NFCS data and require services from government that are, in general, not consistent with some aspects of the National Nutrition Monitoring System.

Health Care (Users): A number of disease and health problems are not presently known to be linked directly to nutritional status. The NHANES surveys of DHHS are used widely in analyses of the incidence of these health conditions and for evaluating programs intended to correct them. Data demands for these uses are important given the aging U.S. population, concerns with environment and, of course, the fact that health services occupy an important share of gross national product. Clearly, these demands of DHHS and the NHANES data are not always consistent with uses of the data in the National Nutrition Monitoring System.

Agricultural Price and Income Policy (Function): The USDA is responsible for operating the "farm program." These responsibilities relate to food policy in a direct way but to concerns about nutrition less directly. Thus, the USDA given the other policy and regulatory functions it must perform would not be an optimal place to house all components of the Nutrition Monitoring System. The major clients of USDA are consumers of food, agricultural producers and the food processing industry. Support of the National Nutrition Monitoring System is but one of the USDA functions.

Resource Conservation and Use (Function): Agricultural resources are important to U.S. agriculture and the subject of a major conservation program of USDA. Clearly, the husbandry of natural resources relates at best indirectly to nutrition monitoring and even nutrition policy. Such linkages, if they exist, are longer term. Is the department responsible for natural resource conservation not going to become at times distracted relative to the National Nutrition Monitoring System? The USDA may use survey data in internal ways consistent with its multiple missions, and at times have priorities not conducive with the requirements outlined in H.R. 2436 for the National Nutrition Monitoring System.

Health Care Delivery (Function): DHHS is concerned with the quality of the health care delivery system and operates a number of programs designed to support and regulate this system. Data from the NHANES survey are important in anticipating the incidence of health problems and the positioning of the health care delivery system. Of course, all health care delivery is not related to nutrition problems and requirements of the NHANES survey to service this function of DHHS are not always consistent with best positioning of the survey for nutrition monitoring.

Disease Control (Function): DHHS is responsible for monitoring diseases in the U.S. population, many of which are not known presently to be nutrition related. This monitoring leads to immunization programs, public education and awareness and even priorities in medical research. These requirements are clearly not always consistent with the DHHS responsibility for monitoring nutrition related health problems.

Education and Diet and Food Supply Analysis (Participation): Many policies that might be suggested by information from the National Nutrition Monitoring System are the responsibility of the USDA. The development of effective nutrition policy requires careful research and data. The NFCS is used to evaluate diet patterns, education programs to change diet patterns, changes in the food supply, the efficiency of households in acquiring nutrients and many other aspects of human behavior and the food supply that have implications for nutrition status and nutrition policy. Clearly, all these program responsibilities and the research base they require influence the decision of NFCS, not always consistent with improvement of the National Nutrition Monitoring System.

Health Education and Health Care Evaluation (Participation): DHHS like USDA is charged with delivering and designing programs that may address nutrition related health problems. For reasons similar to those indicated above, these requirements of DHHS, likely have and will lead to decisions on the design of NHANES and the National Nutrition Monitoring System that contribute to the coordination and accessibility problems of the type H.R. 2436 is designed to eliminate.

Alternatives

H.R. 2436 "The National Nutrition Monitoring and Related Research Act of 1985" has a number of features that can contribute importantly to the extension and improvement of the existing National Nutrition Monitoring System. At the same time, the management provisions for the National Nutrition Monitoring System provided by H.R. 2436 are inconsistent with the diverse functions of the agencies, uses of the system, and groups of participants contributing to the system, both private and public. Needs for improvement of the system are however apparent. Through improved coordination, added research, and more generally leadership from the federal government, the National Nutrition Monitoring System can be extended in coverage and deepened in scientific content. How should this leadership by the federal government be exercised?

New Agency or Commission

Instead of providing for management of the National Nutrition Monitoring System in DHHS, an alternative would be to create an independent commission or agency responsible for the National Nutrition Monitoring System. This approach would provide for an administration dedicated to the improvement and functioning of the System. However, setting up an agency designed principally for statistics collection has drawbacks. Involvement of ultimate users in the design of information systems has the effect of building in feedback mechanisms that preserve the integrity of the system and cause it to adapt more rapidly to policy issues. The establishment of a new independent commission or agency for operating the system, apart from the added layer of bureaucracy, is not attractive relative to how the National Nutrition Monitoring System is currently organized.

Added Coordination

Coordination of the National Nutrition Monitoring System for health and nutrition policy is being carried out currently under the "Joint Implementation Plan". This plan has been in affect only a limited time. The Joint Nutrition Monitoring and Evaluation Committee authorized under the plan for example has yet to produce its first report. An attractive recommendation for coordination and extension of the system is to let this joint endeavor of DHHS and USDA run its course. It is clear that the departments are striving to coordinate and integrate their data collection and monitoring procedures. The recent National Academy Report "National Survey Data on Food Consumption: Uses and Recommendations" is an example of an action to improve the system. Progress is being made in coordinating and improving the National Nutrition Monitoring System. An alternative to H.R. 2436 would be to enhance the coordinating committee structure, adding funding for research and staff and as well expanding the committees to include broader representation of the health and nutrition communities and the public and private sectors.

Long Range Planning

Frequently, standard operating procedures, territorial concerns, and other features of bureaucracies limit their flexibility and responsiveness to national priorities. A well developed long range plan building on the "Joint Implementation Plan" could improve the National Nutrition Monitoring System. In addition, this long range plan could provide for guidance in funding of research related to the system. One provision of H.R. 2436 is for funding for research through the National Science Foundation. Without a plan, it is not clear how the National Science Foundation could administer the research funds effectively. A broad scope planning process, articulating intermediate and long run goals for the National Nutritional Monitoring System could provide an effective framework for achieving the coordination and scientific improvement, the objective of H.R. 2436.

Move with Care

The National Nutrition Monitoring System is improving. It has benefited from the coordinating efforts initiated by DHHS and USDA and stimulated by concerns about problems with NFCS and NHANES surveys relative to their uses in the National Nutrition Monitoring System. Improvements of such complete systems take time. It may not be effective to hurry these improvements by specialized management strategies. The development and implementation of an improved National Nutrition Monitoring System remains an extremely complex problem. For this reason, it is advisable to make changes in the existing system with care and with the advice of a broad cross section from the health and nutrition community. The concern with USDA and DHHS and the two national surveys evidenced in the comments of the bill is understandable. Alternatively, it must be recognized that highly complex systems cannot be changed without incurring undesirable consequences, if such changes are not well researched and debated.

Final Comments

The nutrition and health status of the U.S. population and development of a system for monitoring its status is an highly complex scientific and operational undertaking. Tight coordination of the system at this point is not supported either by the scientific basis for the monitoring system or a clear understanding of what the system should measure and report. The benefits from improving the national nutrition monitoring are however high. Health conditions and the performance of the population are clearly tied in ways we are only beginning to understand to diet and nutritional status. Food and nutrition policies based on solid relationships between diet and nutritional status and health and performance have potential for contributing significantly to the general welfare. These policies and, in fact, the National Nutrition Monitoring System, must proceed with caution however. The same aspects of the monitoring system which can yield substantial potential benefits have the potential for high costs if the information supplied is incorrect and/or policies are designed and implemented based on misconceptions about the population.

The National Nutrition Monitoring System, in general, is on the right track, moving slowly and carefully with substantial input from the scientific community, to broaden and extend the information base on which it resides. There is some replication in the system currently. However, the line between implication and duplication is a thin one. After the fact, replication sometimes turns out to be duplication. Planning for the National Nutrition Monitoring System should be forward looking and as well evaluations of resources for the system should reflect potential costs and benefits of information to be generated by the system and, realistically, the current state of knowledge on nutrition monitoring and potential for applications in food, nutrition, education, and health policy.

Mr. **Walgren**. Thank you very much for those comments.

Let me just ask Dr. Johnson, your testimony reflects in a way the difficulties that we have had with this area in the past where, as I understand it, there were charters developed and goals set and then there just wasn't any completion and certainly the bits and pieces that were developed were relatively incompatible for use by other interested elements of the system. Maybe we have to choose between managing the system. Clearly, it hasn't produced coordinated, comprehensive data that I think the testimony of groups that are focused on heart disease and other kinds of nutritional maladies know would give us some real important guidance.

Do you really feel that it would be harmful to try to develop that kind of management, particularly if this is guided by a broad advisory council that certainly would include the elements which you say ought to participate in this?

Dr. **Johnson**. I would have two comments on your question. One is that the costs of tight coordination are very high. I believe the agencies—and I am a user of the information from the agencies and so have experienced some of the same concerns—the agencies are interested in coordinating.

I believe they are interested in producing timely information. They operate with budget constraints, and the cost of achieving coordination, given their programmatic responsibilities, are extremely high. For example, the Nationwide Food Consumption Survey is very responsive to the needs of the programs that are operated within the U.S. Department of Agriculture. I think if we put the surveys in any department, we would find that happening very naturally.

The second point that I would make is that we are impatient with the national nutrition monitoring system, but the scientific basis for this system is just evolving. The fact that we have diverse activities is not all bad. Standards by which we might monitor, ways of collecting data, statistical procedures that might be applied in analyzing these data are all in developmental phases. I believe it is important to organize the national effort in such a way that there is broad participation in the decisions that are made with respect to how we proceed to develop the system.

Mr. **Walgren**. Looking at it from the congressional viewpoint, the pace of developments in these agencies has been striking by its glacial nature. The history here is not a good one to inspire confidence that they will do anything together, even meet. I know I for one feel that we have to put them together in the same room so that they at least come out with something.

Let me ask one other question in general to the panel. I am not an expert in this area at all. Intuitively, I suspect that there are inklings that we could gather from large population studies in the physical medical sciences. Apparently, that is where some of the first real clues of cause and effect come from, that if you can survey large populations accurately and in a comparable fashion, you may very well find your attention directed at areas that it otherwise would not be or do not leap out in our present knowledge of cause and effect.

Can I ask Dr. LaRosa and Dr. Martorell whether they feel this kind of legislation or that kind of information could provide us with substantial new perspectives on nutrition?

Dr. **LaRosa**. If I might, Mr. Walgren, I couldn't agree more. As I read this bill, there were half a dozen things that immediately came to mind that are questions right now that would be obviously answered by this kind of system. For example, we would like very much to know how eating habits are formed and whether children really do eat as adults what they are accustomed to eating as children. There is a substantial controversy there, and it has some meaning in terms of how we go about nutrition education, when we decide to intervene and in what way.

We know almost nothing about food consumption patterns in the elderly and what effects those might have on disease. While it is obviously true that even preventive medicine doesn't function to keep us alive forever, it should function to keep us, as someone once said, living longer and dying younger. Information about what kinds of nutritional patterns are present in elderly people would be invaluable.

We have a current controversy about whether or not children should be placed on low cholesterol, low fat diets. The position of the American Heart Association is that they should, but there are others who don't feel that way. This kind of information would allow us to isolate groups of kids that are eating one kind of diet and compare them to groups of children eating another.

I could go on and on and on. There are just so many examples of things that would pop out of this as well as areas where we have no idea we even have a problem. I must say, too, that one other point is these things cost money and I am glad I don't have to make the decisions about where that money gets spent, but it is also costly not to do things, not to spend money and not to do things.

And to have as much ignorance as we have in this day and age about some fairly basic nutritional issues is to allow a very wide operating territory for a whole group of quacks and fakers to become presented to the public as experts in nutrition. Often, what we in the scientific community get put in the position of doing is trying to disprove somebody's made-up-out-of-thin-air theory. These kinds of data would be very useful in narrowing the range in which people like that can operate.

Mr. **Walgren**. Dr. Martorell?

Dr. **Martorell**. I agree fully. I think already the HANES surveys and the NFCS surveys are being used to address some of the issues that you mentioned. I think that these investigators, and there are many, there are many published papers in the literature, have been limited by the types of data that are currently available. I think under the bill, the new system would really increase tremendously the potential of these investigators for addressing these questions. I also think that the proposed research funding under the bill would increase the ability of the research community to address these issues.

Mr. **Walgren**. The Chair recognizes the gentleman from California, Mr. Panetta.

Mr. **Panetta**. Thank you, Mr. Chairman.

Gentlemen, one of the problems I have every time I deal with the nutrition issue is I feel like I am jumping into a bowl of jello. I mean, the problem I sense is that there are people who are interested in the issue but somehow it never quite comes together for whatever reason. Even Dr. Johnson, as I understand it, you are a member of the Joint Nutrition Evaluation Committee which was supposed to report back in November 1984, and still hasn't reported. So, even the committees that are supposed to report on the coordinating problems are having a tough time getting it together to submit their report.

I would just like to ask you straight on, do you think there is a coordination problem on the committee that is overseeing this? Is there a coordination problem and, if there is, what is the nature of it?

Dr. **Johnson**. I believe there is a coordination problem. My concern with the proposed legislation has to do with the way we are addressing the coordination problem. These surveys have grown up within the two agencies in an important way to service the programs that are operated by those two agencies. A part of what we perceive to be a coordination problem from the outside in integrating the information is not a coordination problem at all if the surveys are seen as targeted toward programs that are operated by the agencies.

I think we are having a broader view of nutrition and national nutrition policy, and I applaud that, and I see what is evidenced as a lack of coordination as growing pains associated with it.

I am hesitant about saying that it would be appropriate to try to concentrate the control of the system too closely at this point simply because the scientific basis for the system is progressing. We need investments in that basis, but it is not entirely clear to me what we want to monitor, for example. And until we know what we want to monitor in the system, and how we want the system to develop, it seems that superimposing a tight management on it is maybe not the way to go.

Maybe we should exercise leadership in government by providing some funding, by providing opportunity for all the participants in the development of the basis for the system to operate. I am not sure that, from my viewpoint at least, that as a government or as scientists we are prepared to say that these are the things that should be monitored, this is how they should be monitored, and this is the timeliness with which they should be monitored. You would get very different answers from the three people here if you asked that question. And, until we know that, putting a tightly controlled system on it may frustrate instead of improve the progress.

Mr. **Panetta**. Dr. LaRosa.

Dr. **LaRosa**. Maybe this is the difference between a physician and an economist. I don't read the bill as having such a great impact in terms of control as I do in terms of communication.

One of the things that concerns me, and I think concerns the Heart Association is that the Federal Government, in its various branches, be talking to one another in some sort of effective way about some of these issues. I don't think there is any chance of this or any other bill controlling nutrition policy. Ultimately, that is an individual decision, but it is important that the Government, to the extent possible, provide messages that are consistent to the public and that within the framework of Government, people talk to one another so that some of these methodologies can be developed.

I quite agree that this is still very much an infant science and that there are many things in terms of evaluation of nutrition that we have to do better, have to learn how to do better, but I think we will do that better if we are talking to one another.

Mr. Panetta. Well, that is my concern, because, very frankly, from our perspective, it is a question of when you provide funding to an area of nutrition study, you want to get answers back, and I don't get any answers back now. When I ask either USDA or HHS what their results are, I have data that is piled in rooms that is 5 years old that I don't get up to date information about what is going on out there.

While it might be nice to say, well, we would like you people to kind of study this issue and decide what different areas you would like to go to, we have to turn to taxpayers and say this is what we are getting for the dollars that we are spending. Very frankly, that has to be some kind of coordinated effort so that we can point to it.

I am getting tired of going through these hearings, very frankly, every so often talking about how nice it would be to do this and do that. Then, we always wind up not having anything to point to. So, Mr. Emerson and I put amendments in the farm bill and we try to do what we can to try to force this issue, but I am getting increasingly frustrated with the lack of ability to point and say, we have, as a result of the dollars we are spending, some nutritional information about the status of nutrition in this country.

That is what is lacking right now and I guess that is really the frustration with which this legislation is born.

Thank you, Mr. Chairman.

Mr. Walgren. Thank you, Mr. Panetta.

The Chair would recognize Mr. Boehlert.

Mr. Boehlert. I have no questions, Mr. Chairman.

Mr. Walgren. Mr. MacKay.

Mr. MacKay. Thank you, Mr. Chairman.

I have some questions for Dr. Johnson. It seems to me that, Dr. Johnson, your position is directly opposite that of the users' advisory board for the National Agriculture Research and Extension Program. It seems to me that the people trying to use the data are saying—in fact, I quoted from their report—that there is no coordination, that they are not using modern sampling techniques, that they are not attempting to get data that can be used from one program to the other, and that the time lag is inexcusable.

It seems to me you are saying, oh, no, it is very excusable when you consider what the agencies are doing. What I am saying is, if we wait for the agencies to decide that they need to do more, hell will freeze over before we ever get the information we need.

Now, the other report that I have seen is a 1981 report from the Committee on Food Consumption Patterns of the Food and Nutrition Board which I believe is your board, Dr. Martorell. They seem to say the same thing. In fact, they seem, in 1981, to go forward and say, look, this is how you could do it, and spell out a method which is different from the method that, as you say, has grown up in the two agencies.

It seems to me you almost have to have a set of blinders on to be taking the position you are taking in contradiction, almost, to these other people who are saying take a smaller sample size, take 20 percent of the population per year, continue to do your two studies, just get them so that they are using the same sampling techniques and your data and your methodology are useful. In other words, they can be cross-walked. At the end of 5 years, you have the whole thing in sequence. You are using better sampling techniques and smaller numbers—I am now trying to say this as a lay person. Even I can understand what they are saying. It seems to me it is sensible.

Now, what is wrong with that?

Dr. JOHNSON. I seem to have come out as the person against coordination and timeliness and other things.

Mr. MACKAY. Well, somebody had to do it, I guess. We can't seem to pass the bill. No; I take it back. Dr. Johnson, you are not alone. We just got a response from the USDA this afternoon, and they agree with you.

Dr. JOHNSON. As a matter of fact, the Joint Nutrition Monitoring and Evaluation Committee of which I am a member will make some recommendations that have to do with coordination. I am for coordination. I think we can make recommendations about specific types of coordination that would improve these two surveys.

On the other hand, if we take the whole national nutrition monitoring issue, it may be that we are not ready scientifically or in other ways to put that in any department of government that has a specific interest in a particular aspect of the nutrition problem. My point with the bill is that I support the coordinating committee and the broad participation guiding this national nutrition monitoring system.

I am concerned about the fact that when the nuts and bolts management occurs, it will occur within an agency that has special interests in the nutrition problem that are not representative of all the concerns that exist for nutrition status in the country.

Mr. MACKAY. You don't think the advisory board and the provision for selection of the executive director with the advice and consent of the head of USDA, your distrust of HHS is so profound that you don't believe that would protect USDA's vested interest?

Dr. JOHNSON. Frankly, I am not so much interested in protecting USDA's vested interest.

Mr. MACKAY. Well, there are only two agencies.

Dr. JOHNSON. There are two agencies. I am not——

Mr. MACKAY. DOD is not complaining.

Dr. JOHNSON. I would argue with you, I believe, on the same grounds that I have made this argument, that the coordination shouldn't come out of USDA either. I am not arguing that the system shouldn't be in the Department of Health and Human Services. I am saying that those two departments have programs to operate and they have constituencies that are important to them, and they have operating procedures that guide their activities. It is not reasonable to expect that if you put a broad program under some specific agency that they can operate it without being influenced by their primary functions.

Mr. MacKay. We asked a question, or Chairman Walgren did, during the year of both of the agencies, and that question was, How much are you spending on this now? The answer was, we can't really tell you. So, now, we not only can't get data for 6 years, and your own users are saying that is inexcusable, but we as the people with oversight responsibility can't find out how much is being spent because they don't budget in line items.

You are telling us if we try to exercise more control this problem is going to get worse? How could it get worse?

Dr. Johnson. Well, I agree that there is a problem, and it seems to me that despite all of the difficulties with the national nutrition monitoring system that we have in this country, it is extremely good compared to those in other countries.

If we exert the kind of direct management control, I think that is useful if the managers of the system actually can control the development of the national nutrition monitoring system. I don't think that we know enough about what that system should be currently. I don't think that the scientific basis is completely there yet. I think that there are many resources that go into the development of that system, for example, the research programs at land grant institutions and in medical schools, that bear on it, that could be left out by the proposed approach.

Mr. MacKay. But those are the very people who are now saying to us, we are being left out under the existing approach. We are getting data we can't use. We are having to wait 6 years for it. There is no way to tie it all together, and there are gaps in it. I am suggesting to you that perhaps your idea that we are going to jeopardize the system might be a result of a too narrow approach as to who the system is meant to serve. All we are saying is they have to coordinate the way they do the two surveys. We are not suggesting there be a single survey.

Dr. Johnson. I think they should coordinate the way they do the two surveys. I don't have any problem with that. But the national nutrition monitoring system is more than those two surveys.

There is much information on the development of standards, for example, for use in monitoring. There is a broad information base that feeds to the national nutrition monitoring system, at least the system as I perceive it. What I am saying is that let's be careful not to leave the other participants in that system out in the cold when we design the way it is going to operate, say, in the near term.

Mr. MacKay. Thank you, Mr. Chairman.

Mr. Walgren. Mr. Morrison?

Mr. Morrison. Mr. Chairman, I just wanted to inquire of the panel if they know of any examples of countries that do a nutritional monitoring program and do it well, or, even with all of our fumbling, are we still ahead of the rest and do we have no good examples or models we could follow?

Dr. Martorell. There is, on a very different kind of scale, an example which is Costa Rica. They are interested primarily in problems of severe malnutrition. Costa Ricans do have a national nutrition monitoring system that seems to be effective in providing timely data, but I agree with Dr. Johnson that the system in the United States, with its problems, is able to provide data that are informative. But I think the time has come to really improve the system and to lead the world in terms of national nutrition monitoring.

Mr. **MORRISON**. Dr. Johnson?

Dr. **JOHNSON**. I am not aware of any countries that have a system that is as complete as ours. Frankly, most of them don't have food consumption surveys that are comparable to the one that is operated by the USDA. I know more about that than I do the survey that is operated by the Department of Health and Human Services.

We are frequently called on to help them design questionnaires, design samples, process the food consumption data into nutritional quantities. So, my feeling is that the United States is broadly recognized as the country that has the best methods and the best system and the best information on their population. It is not good, but it is better than other places.

Mr. **MORRISON**. Thank you.

Thank you, Mr. Chairman.

Mr. **WALGREN**. On behalf of the committee, let me express our appreciation for your being available to us. We hope that we will get back to you if there are points we can develop that would shed some light on other questions. Thank you very much.

The Chair would recognize the gentleman from California to introduce the next panel in view of his capacity here as chairman of the collegial subcommittee from the Committee on Agriculture.

Mr. **PANETTA**. Thank you, Mr. Chairman.

The next panel would be Dr. Malden C. Nesheim, director of the Division of Nutritional Sciences, Cornell University; Dr. Jeffrey R. Taylor who is chief of the Division of Research Demonstration and Evaluation for the Center for Health Promotion, Michigan Department of Public Health, representing public health and government organizations; and Lynn Parker who is a nutritionist with the Food Research and Action Center, Washington, DC, representing the consumer, antihunger, senior, and religious groups.

Dr. Nesheim, if you would proceed, your statement will be made a part of the record, and you may proceed as you wish.

STATEMENT OF DR. MALDEN C. NESHEIM, DIRECTOR, DIVISION OF NUTRITIONAL SCIENCES, CORNELL UNIVERSITY

Dr. **NESHEIM**. Thank you very much, Mr. Chairman.

I am grateful for the chance to testify at these hearings on nutrition research and monitoring. I am a professor of nutrition and director of the Division of Nutritional Sciences at Cornell University, and I am currently president of the American Institute of Nutrition.

My testimony before you today really will be a reflection of my own views, but I must say that my appearance here has been endorsed by a number of organizations within the nutrition community. These include the Joint Public Affairs Committee of the American Institute of Nutrition and the American Society for Clinical Nutrition, by the National Nutrition Consortium, by the Society for Nutrition Education, by the Subcommittee on Human Nutrition of the Experiment Station Committee on Policy of the Land Grant Colleges, and by the American Dietetic Association.

All of these professional groups which represent the bulk of the nutritional professionals in the United States have asked me to express their continued support for the timely establishment of a coordinated national nutrition monitoring program as provided in H.R. 2436.

Mr. Chairman, I had an opportunity to appear before these hearings last year as you considered similar legislation, and I am particularly grateful for the support that this issue received at that time. I think this bill is an important expression of congressional support for the national nutrition monitoring efforts in the United States and, as such, represents a way in which you can express your will in this particular area. I think it is a timely bill for that purpose.

The need to reinforce the national commitment to a national nutrition monitoring program I think still exists and, in fact, I think the needs are even greater than ever. As has been pointed out in the earlier panel, the last truly national data on health and nutrition information date are from the HANES II survey in 1977 to 1979, even though the data analysis from that survey are still underway.

We are looking forward to the results of a recent Hispanic HANES that has just been completed, but, again, that data has not been analyzed.

We know there is something going on in the community right now when you consider the fact that we have gone through, since that 1977-79 period, a number of cycles of inflation, of unemployment, changes in Government programs, and we really don't have very much information as to what is happening out there. I can understand the frustration that some of you have raised about trying to ask these questions as to what is happening out there.

We have been involved in a New York State system of nutrition surveillance the last couple of years which has been developing within the State out of a recognition of a need to have that information on a State level. As an example of the kind of information that comes out of that, we have recently done a complete survey, a census, really, of all of the emergency food feeding sites within New York State. This is soup kitchens and food pantries. We have identified over 1200 of these sites in every county of the State. Food pantries, for example, are serving more than 50,000 people per week. The soup kitchens are serving more than 70,000 meals every week.

These agencies—over 50 percent of these groups—were not in existence 4 years ago. So, there is something happening, and I don't think we really have a system in place that enables us to really understand that and what the implications of that might be for our national programming in food and nutrition, in our food programs.

We do spend a lot of money on food programs in this country, and I think we should be prepared to spend a small fraction of that to develop the data that we need to monitor and target our programs to ensure that we are serving those who are most in need.

Though I certainly want to support the findings contained in the bill about the uses of this material—I think a number of the earlier witnesses have covered that—I think the bill identifies the key components of the nutrition monitoring system which do include the Nationwide Food Consumption Survey of the Department of Agriculture, and the HANES survey. But, as Dr. Johnson pointed out, there are a number of other activities that go on within the Federal Government, the Food and Drug Administration, the Centers for Disease Control, all of which have important information to provide for a nutrition monitoring system.

I think that also indicates that what we are talking about here is not establishment of important new set of surveys or a whole host of new structures, but that in fact we have a lot of this material in place and we need to coordinate and manage it better.

I would particularly like to call attention to the fact that I think there should be a national system. It is something we need on a national basis, even though I think that the States also have a stake in this. As I indicated, our own State of New York is taking a strong role in an attempt to develop systems for monitoring nutrition problems within its borders. The New York State Department of Health is providing support for this. I think our efforts in New York State will be complimentary to a national system and should be coordinated into it. I think that the recognition of these State efforts that are provided within the current legislation is a valuable part of the legislation, and I think we need to encourage these State efforts.

I certainly agree with the findings that we do need to support further research to make the system work so we know how to do it better. The provisions of the bill that provide this responsibility to the National Science Foundation, I think, is an interesting one. My only plea to this is that it be managed through that foundation in a sensitive way to the needs of the particular programs and the types of research that have to be done.

I would also like to endorse the fact that you are going to provide the States some support to enable them to carry out some research, to enable them to do a better job on this as well.

Now, the administration of the bill, at this point, is somewhat, I think, more simplified from last year's version that was considered. It indicates that the Secretary of Health and Human Services shall be responsible for the implementation of the coordinated program. Again, as one always faces in this issue, how do you deal with coordination problems?

I don't have a real problem with placing the administrative responsibility in a single agency. After all, somebody has to do the housekeeping that is necessary to make something happen. But I also agree that the USDA and Health and Human Services have to both be committed to this program.

The expertise in food consumption, food composition, research on survey methodology and all of the expertise on the food supply that resides in the Department of Agriculture is essential for a national nutrition monitoring program to succeed. So, there is no question that coordination has to take place, but somebody does have to kind of mind the store.

I want to emphasize, Mr. Chairman, that there is a broad support for implementing a national nutrition monitoring system in the professional and academic nutrition community in this country. We feel the system is needed, that we have to have timely data, and that the system is rightly a responsibility of the Federal Government. You can be assured that the nutrition professionals in this country are prepared to play their parts in assisting Federal agencies with this program once a real commitment is made to move ahead.

I want to thank you for the opportunity to express these views to you.

[The prepared statement of Dr. Nesheim follows:]

TESTIMONY OF

MALDEN C. NESHEIM

DIVISION OF NUTRITIONAL SCIENCES

CORNELL UNIVERSITY

AT

JOINT HEARINGS ON HUMAN NUTRITION RESEARCH AND MONITORING

OF THE SUBCOMMITTEE ON SCIENCE, RESEARCH & TECHNOLOGY

THE SUBCOMMITTEE ON DEPARTMENT OPERATIONS, RESEARCH, AND FOREIGN AGRICULTURE

AND THE SUBCOMMITTEE ON DOMESTIC MARKETING, CONSUMER RELATIONS AND NUTRITION

HOUSE OF REPRESENTATIVES

JUNE 25, 1985

PREPARED STATEMENT OF MALDEN C. NESHEIM, DIVISION OF NUTRITIONAL SCIENCES, CORNELL UNIVERSITY

I am grateful for the opportunity to testify at these hearings on Human Nutrition Research and Monitoring. I am Professor of Nutrition and Director of the Division of Nutritional Sciences at Cornell University and President of the American Institute of Nutrition. My testimony today represents my own views but my appearance here has been endorsed by the Joint Public Affairs Committee of the American Institute of Nutrition and the American Society for Clinical Nutrition, by the National Nutrition Consortium, the Society for Nutrition Education, by the Subcommittee on Human Nutrition of the Experiment Station Committee on Policy of the Land Grant Colleges and by the American Dietetics Association. All of these professional groups representing the bulk of the nutrition professionals in the United States have asked me to express their continued support for the timely establishment of a coordinated national nutrition monitoring program as is provided for in H.R. 2436.

I had an opportunity to appear before you last year as you considered similar legislation and I am grateful for the support this bill received at that time.

The need to reinforce the national commitment to a national nutrition monitoring program still exists and, in fact, the needs appear to be greater than ever. The last truly national data from a Health and Nutrition Examination Survey (HANES) date from 1977-79, even though the data analysis from this survey is still under way. We are looking forward to the results of the Hispanic HANES which has just been completed but analysis of this data has only just begun.

The need for systematic and frequent Health, Food and Nutrition Monitoring is apparent when you consider cycles of inflation, unemployment, changes in government programs that have occurred in just the short time since the last HANES data collection. We continue to spend billions of dollars on food programs in the United States and we should be prepared to spend a small fraction of that to enable us to develop data that can be used to monitor and target our program to insure they are serving those most in need.

I wish to support the findings contained in the bill that the information derived from a national nutrition monitoring system has a wide variety of uses. An adequate and timely system that systematically monitors food consumption patterns and health indicators in defined population groups can provide data for food and nutrition policy development, for agricultural policy, and for health planning. Data collected should provide important information about the adequacy of the overall impact produced by our social, health and nutritional policies and programs, though a monitoring system will not replace the need for specific evaluations of the programs.

Data from a comprehensive nutrition monitoring system that provides information as to food consumption trends and nutrient intake and health indicators are extremely valuable for nutrition education programs, appropriately targeted to current food practices and public health needs. Such data also are used by the entire food system, from agriculture, the food industry and federal regulatory agencies.

I believe the bill identifies the key components of the nutrition monitoring system, including the National Food Consumption Survey (NFCS), HANES and the important activities carried out by the

Food and Drug Administration and the Center for Disease Control. The bill also addresses the timeliness of data analysis and reporting that must accompany a system of data collection.

A key feature of such a monitoring system must be its regular and systematic data collection and its timely analysis and interpretation so that appropriate actions can be taken by the system's users, whether it be government departments, the congress, private industry or academic institutions. Such a system need not require development of new and expensive data collection systems or major new federal bureaucracy. What is needed is the coordination, timely implementation and adequate interpretation of elements of a system largely in place but at the moment languishing because of inadequate funding and attention.

Presently the data obtained from these various sources are not integrated to provide the timely and comprehensive view of food practices, trends and health implications that could be constructed from the comprehensive data collected by the surveys cited. This should be a major function of a national nutrition monitoring system. In most instances, agencies have not had sufficient resources to insure timely analysis and release of national survey data. These resources should also be provided so that the research and academic community in the United States could play its complementary role in analysis and interpretation of national survey results. The provisions of H.R. 2436 call for specific funding of the program by the agencies involved on a long term basis. Only in this manner can planning and preparation for surveys and data analysis be carried forward in a coordinated and timely fashion.

Such a coordinated nutrition monitoring program must be a federal responsibility. Our food production and marketing system is national, not based on local or regional food supplies. Federal intervention programs related to nutrition are and must continue to be national because our population is highly mobile. All these factors indicate that we have a need for national data. At the same time we must recognize that many states are developing a concern for monitoring the nutritional wellbeing of their citizens. My own state of New York is taking strong leadership in developing a system to minitor nutritional problems within the state. These efforts initiated by the New York State Department of Health are complementary to the national nutrition monitoring program described in H.R. 2436 because they provide data suited to local and regional initiatives which cannot be provided by national surveys. Certainly, state efforts in this area should be encouraged and integrated into the national system. These state efforts are needed as state programs increasingly are put in place to supplement and fill in gaps not covered by federal assistance programs.

I also wish to support provisions of H.R. 2436 which call for the appropriation of research funds to the National Science Foundation to support research into appropriate indicators, standards, methodologies, technologies and procedures for nutrition monitoring and surveillance.

There are several types of research needed for a functioning nutrition monitoring system in the United States. We hope that NSF in administering these research funds will develop a clear understanding as to the nature of the research needed to provide the underpinnings to the nutrition monitoring system. The data presently available for monitoring are not currently being used well. There will be specific recommendations made to federal agencies by the National Academy of Sciences and by the present Joint Nutrition Monitoring and Evaluation Committee for improving the utilization of existing data. There is, however, a need for operational research to improve the use of nutritional monitoring data in setting policy and program planning. Thjs research can best be carried out in the context of specific nutrition monitoring programs in which it is clear for what purpose data are to be used. This research is needed along with that aimed at improvement of survey design, sampling, appropriate indicators, and measurements useful for targeting.

I also endorse the component of this legislation which provides for grants to states to enhance their capabilities in nutrition surveillance and monitoring. The state efforts could become a key component of national efforts to understand the health and nutrition needs of our population.

The current bill outlines a somewhat simplified administrative structure for the implementation of the coordinated program. It also indicates that the Secretary of Health and Human Services shall be responsible for the implementation of the coordinated program. Though I believe that the administrative responsibilities should be placed in a single agency, it is important that HHS and USDA both be committed to the monitoring program. The expertise in food consumption, food composition, research on survey methodology, and the food supply residing in the USDA are essential for a national nutrition monitoring system to succeed.

Mr. Chairman, I wish to emphasize the broad support for implementing a national nutrition monitoring system that exists within the professional and academic nutrition community in this country. We feel the system is needed, that the data must be available on a timely basis, and that such a system is rightfully a responsibility of the federal government. You may be assured that the nutrition professionals in this country are prepared to play their part in assisting federal agencies with this program once a real commitment is made to move ahead. I wish to thank you for the opportunity to present our views on this important issue.

Mr. PANETTA [cochairman]. Thank you very much. Dr. Taylor.

STATEMENT OF DR. JEFFREY R. TAYLOR, CHIEF, DIVISION OF RESEARCH DEMONSTRATION AND EVALUATION, CENTER FOR HEALTH PROMOTION, MICHIGAN DEPARTMENT OF PUBLIC HEALTH, REPRESENTING PUBLIC HEALTH AND GOVERNMENT ORGANIZATIONS

Dr. TAYLOR. Mr. Chairman, members of the subcommittees, and associates, on behalf of the Association of State and Territorial Public Health Nutrition Directors, the American Public Health Association, and 22 other groups that I represent, I wish to thank you for the opportunity to speak with you today about national nutrition monitoring. Our coalition strongly supports H.R. 2436 and urges its immediate passage in its present form.

Our testimony today will briefly outline the reasons for our support. Three areas will be summarized: First, concerns in the States and localities about the nutritional status of vulnerable subpopulations of children, pregnant women, and the frail elderly; second, lack of information available at all levels of government and private endeavor needed to develop food assistance and other nutrition intervention programs; and, third, the features of this bill which will make it practicable but workable and cost efficient.

Concerns about the nutrition of infants and young children fall into distinctly different categories depending upon geographic location. For example, the protein malnutrition and its syndrome of multiple deficiencies is a major problem in developing countries. In the United States, however, and other technologically advanced nations, this type of problem of severe malnutrition is rare. When it does occur, it is usually secondary to other psychosocial problems in the family.

There are, however, major nutritional problems in this country, including the large number of low birth-weight babies born which contribute to our high infant mortality rates. Other concerns are moderate degrees of iron deficiency anemia as a result of undernutrition and obesity related to overnutrition. The U.S. Public Health Service estimates that between 10 and 15 percent of infants and children among migratory workers in certain rural populations suffer growth retardation due to nutritional inadequacies. Obesity in children is of particular concern to us as a risk factor for adult onset of heart disease, hypertension, and diabetes, but we lack clarity about the causation of obesity. This has led to confusion about the prevention and remedial measures that we can implement.

Low birth-weight is well established as an important precursor of excessive infant mortality, of mental retardation, and other handicapping conditions. Diet during pregnancy is of particular importance, but we continue to find how little we know about weight gain in pregnancy and optimal interventions for high risk groups.

For example, adolescent girls, whether pregnant or not pregnant, tend to have bizarre and inadequate diets. A Chicago study of nearly 1,000 diet records from girls who had conceived their children at age 16 or below reveal that only one-third had good diets and almost 45 percent had poor diets.

There is a specific lack of information about the role of nutrition in preventing toxemia during pregnancy, a condition characterized by swelling of the extremities and elevated blood pressure to name a few symptoms. Toxemia has been called the disease of theories because of the lack of information surrounding its prevention, control, and treatment. Protein and calorie restriction were once recommended following World War II but are not recommended any longer. Sodium restrictions should be approached with caution, according to some sources, but we are hard pressed for specifics and clear direction.

Turning to another aspect of nutrition, chronic disease prevention, a recent consensus conference produced agreement on lower recommended cholesterol levels for adults, and the recommendation that diet and exercise be used first as a prevention and continuing step in prevention and care. How should we proceed to implement this recommendation?

In the field of cancer, diet and smoking are accorded nearly equal importance in reducing deaths. Again, can we correctly adapt public health programs in support of these ideas and take part in this so-called second epidemiological revolution which hopefully will reduce preventable deaths prior to age 65 by up to 62 percent?

What about the importance of osteoporosis, particularly in white women over age 50. This is a condition in which bone mass decreases causing bones more susceptible to fracture. A fall, a blow, or a lifting action that wouldn't cause you or I any particular concern could easily cause a fracture in older women. We need more work on the clinical and epidemiological side as well as the basic research side if prevention efforts are to be developed and put into practice in the states and localities.

Why this bill at this time? Do the States and localities have the information they need to proceed? A story recently told by C. Arden Miller, chairman of the School of Maternal and Child Health at the University of North Carolina, is instructive. There was a man celebrating his 80th birthday. Friends praised and congratulated him in high spirits. Someone observed that such advanced seniority is not common among men. For every 80-year-old man, there are five 80-year-old women. The birthday celebrant reflected a moment and countered, "that is the most useless piece of information I have ever heard."

We have lots of information, but instead of its being woven into a coherent whole, we have a "Tower of Babel." Large amounts of data are collected and rarely, if ever, interpreted in the context of their policy or programmatic implications. The information we do get is pathetically slow in coming. The HANES II survey began in 1976. It is still not complete, and HANES III has been shelved until 1988.

The major nutrition survey groups, HHS, the CDC, and USDA all have important purposes and could potentially provide us with vital information, but the sampling procedures, study designs, and dissemination ideas all vary in a way in which it makes it confusing and difficult for us to sort the wheat from the chaff.

A recent report by the U.S. Public Health Service points up the strategies needed to implement the 1990 health objectives for the Nation. The nutrition section assigns coordination and implementation responsibilities to 26 different offices within HHS, 2 in USDA, and 15 in non-Federal groups. That is a total of 43 different outfits. The nutrition monitoring plans rarely show a target completion date but simply state "ongoing." That pretty well describes it. The work goes on, but precious little is completed on any relevant timeframe.

In conclusion, the present bill, H.R. 2436, is not a perfect bill, but it is a vast improvement over the current situation. Our coalition would like to see it pass for several reasons. We think it is a positive and constructive measure which allows both the President and the Congress to provide appointments and direction. There are regular reports of program plans and progress. The 10-year life of the bill makes it possible that the activities will be completed and the difficult work of coordination will be accomplished.

There is a genuine effort to build capacity in the State and local public health system, and we particularly appreciate the role of the CDC. In Michigan, we have had a great deal of help in controlling diabetes and surveying our population on health risks. The expertise of the National Science Foundation is recognized throughout the United States, and I think their work in developing the indicators and uniform data requirements will mean that it will be adopted and carried out by the States.

While H.R. 2436 provides certain implementation responsibilities to HHS, the bill clearly gives authority over the program and plan to all involved parties. We urge your adoption of H.R. 2436.

I would be glad to answer questions at the appropriate time.

[The prepared statement of Dr. Taylor follows:]

NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985, HR 2436

HEARING BEFORE

THE SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY
THE SUBCOMMITTEE ON DEPARTMENT OPERATIONS, RESEARCH AND FOREIGN AGRICULTURE
THE SUBCOMMITTEE ON DOMESTIC MARKETING, CONSUMER RELATIONS AND NUTRITION

Washington, DC - June 25, 1985

Testimony Presented by

Jeffrey R. Taylor, Ph.D.
Representing the
Association of State and Territorial Public Health Nutrition Directors
American Public Health Association

ENDORSEMENTS

The testimony of the ASTHO Nutrition Directors on National Nutrition Monitoring has been endorsed by the following organizations:

American Association of University Women

American College of Preventive Medicine

American Federation of State, County and Municipal Employees

American Nurses Association

American Public Health Association

Association of Faculties of Graduate Programs in Public Health Nutrition

Association of Maternal and Child Crippled Children's Directors

Association of Schools of Public Health

Association of State and Territorial Health Officials

Association of State and Territorial Public Health Nutrition Directors

California Conference of Local Health Department Nutritionists

Coalition for Public Health Nutrition

Health Officers Association of California

National Association of Counties

National Association of County Health Officials

National Association of WIC Directors

National League for Nursing

National Perinatal Association

Service Employees International Union

Southern Health Association

Teachers of Preventive Medicine

University of North Carolina/Child Health Outcomes Project

U.S. Conference of Local Health Officers

U.S. Conference of Mayors

TESTIMONY OF DR. JEFFREY TAYLOR
REPRESENTING A COALITION SUPPORTING HR 2436
WASHINGTON, DC -- JUNE 25, 1985

Mr. Chairmen, Members of the Subcommittees, and Associates: On behalf of the Association of State and Territorial Public Health Nutrition Directors and others whom I represent, thank you once again for the opportunity to speak with you today about national nutrition monitoring. Our coalition of government, professional, academic, health, voluntary, and social service organizations shares a common concern for nutrition monitoring and the practical uses to which these data and methods are put. It is my pleasure to be the spokesperson for this group.

Today we will discuss some significant new developments that have heightened the need for monitoring, and we will respond to objections to the bill that have been raised in past deliberations.

In the year that has passed since this coalition last testified, the need for a national nutrition monitoring system has grown more acute. Many state and local governments, in partnership with charitable organizations, have continued to grapple with assessing the magnitude and severity of homelessness and hunger. Government particularly has had to distinguish which persons are most in need of services and then make difficult decisions as to whether and how resources might be redirected. Such determinations require current and accurate information about nutritional health, dietary intake and the causes of nutrient deficits. This information must be available for the nutritionally vulnerable -- pregnant and lactating women, including teens; infants and children; the frail and the elderly. It must be available for specific groups, such as the chronically poor, the newly poor, and ethnic subgroups known to have high rates of nutrition problems. And it must point to specific geographic areas where services are needed.

Over this last year, some communities have made gains in developing methods and measurements to assess these very real human needs.[1] However, the technical expertise that the federal government could apply to assist states and localities in moving rapidly to assess these problems has been largely absent, and there has been little capacity demonstrated within federal agencies for disseminating these innovative technologies to other localities which are struggling with the same problems. For example, in Mississippi alone the health department and Governor's

Office testified before four different committees of inquiry that they did not have adequate information about the magnitude and scope of nutrition problems among their people.

In addition, information which is released nationally is frequently outdated, thereby confusing and confounding the development of policy. For example, the most recent HANES reports are 1981, before impact of the recession on nutritional health would be evident. Most HANES and NFCS reports are 1971-74 and 1977-78; thus their value in identifying and locating current problems has decreased due to the delayed analysis of the data.

Shifting to another aspect of nutrition, over the past year scientific agreement has grown regarding the relation of nutrition to preventable disease. For example, it is now estimated that 60 percent of Americans have blood cholesterols exceeding safe levels, and it is recommended that diet should be the first mode of prevention.[2] In the field of cancer, diet and smoking are accorded nearly equal importance in reducing cancer mortality by the Year 2000.[3,4] And for American women over the age of 50, 40-90 percent have osteoporosis which is estimated to cause nearly three-quarters of all fractures and result in more deaths in this group than does breast cancer.[5,6]

Such reports and statistics have stimulated health departments, voluntary agencies, employers and industry to re-examine their nutrition programming and begin setting far more precise dietary objectives than were previously possible. As a part of this trend, a number of states have used two excellent documents, the 1990 Objectives for the Nation[7] and Model Standards for Community Preventive Health Services[8], to assess their own progress toward common nutrition goals. In other states, more specific dietary and service objectives have been developed.[9,10]

In both cases and without exception, there are no states which have been able to use existing national nutrition survey results in establishing baseline values and setting measurable dietary targets for the future. This is not necessarily because the raw data are not available nationally, but rather because there is no mechanism to transfer the technology of how to apply these data in making synthetic population estimates between federal sources and non-federal data users. In addition, the dietary survey methods and analytical techniques used by the two departments are not comparable, making it impossible to establish definitive baseline values and to quantify shifts in dietary intake over time. For example, the percentage of the population consuming fat within the recommended level of 30% of total calories may vary from 23% in one national survey to only 6% in another.[11] These differences critically affect the design and content of any nutrition programming.

Further, there continues to be a near total absence of development of dietary assessment methods suitable for public health applications. It is indeed amazing that the dietary interview methods used in health care today differ little from those developed in the 1930's while at the same time industry uses sophisticated market survey and public opinion polling methods to constantly monitor and probe consumer behaviors and trends in order to increase food product sales. Clearly, the need for an organized program of methods research oriented toward consumer dietary awareness, attitude, knowledge and practice is acute if health practices are to be influenced.

In summary and in answer to the first question, is the present national system of nutrition monitoring meeting the needs of non-federal users, we respond by saying that we view the present activities as a firm foundation. However, since that system was not designed and does not now have the capacity to add the functions needed by the organizations we represent, namely integrating regional, state and local data needs and providing consultation, technical assistance, training and coordination among non-federal users, the passage of HR 2436 remains essential.

In the past a number of reasons have been cited as to why national nutrition monitoring legislation should not be passed. We would like to address several of these below:

It has been stated that a national nutrition nutrition status network may not be helpful to states and local areas because of differing data needs, study samples and collection methods.[12] We believe that these reasons argue strongly *for* national nutrition monitoring. It is our belief that a National Minimum Data Set for Nutrition can and must be developed as was done so successfully in the early 1970's for Family Planning and is now being done for state health departments within the National Public Health Reporting System of the ASTHO Foundation. We would like to emphasize that the development of such a uniform data set, one which incorporates measures of health, nutrition, diet, knowledge, food supply, demand, and service is essential if we are to realize the benefits of improved nutrition that are potentially available.

We stand prepared to participate in developing and contributing to this system, and we guarantee that it will be used by a wide array of agencies and organizations, thereby multiplying by many times the benefits of the existing federal nutrition monitoring efforts.[13]

A second objection raised in the past pertained to the bureaucracy of a Nutrition Monitoring Directorate and the increased workload imposed on staff by the Nutrition Monitoring Program. HR 2436 has addressed these concerns. The assignment to HHS of lead agency responsibility makes sense since most nutrition monitoring programs now occur in that agency, a large proportion of data users need the information for health-related purposes, and because it is not expected that agriculture surveys would care to collect extensive health and medical data on study populations. The Intergovernment Science Board, jointly chaired by HHS, USDA and the Department of the Army, retains policy authority within each department, and the Board's diminished size and unspecified composition permit the Administration maximum flexibility in establishing membership. The personnel requirements of the Administrator and staff are lowered and unspecified, respectively, and the workload is decreased, due to contracting out for the report on national nutrition status and the food supply and to requiring this report only once every two years.

It has been our experience that the complex environment in which health, diet and food must be considered simultaneously makes inevitable a certain amount of bureaucracy. We believe that HR 2436 has reduced these bureaucratic barriers to a bare minimum, maintained administrative flexibility, clearly assigned roles and authority, and provided accountability to Congress and outside users.

And finally, we consider the matter of money. Reference has been made to costs of $20-30 million annually for this legislation.[14,15] Figures of this size may include the full costs of all present nutrition monitoring activities (it is our impression that there is no published budget for these activities), but HR 2436 itself cites only $2 million for methods research and $1 million for state assistance through the Centers for Disease Control. Costs of $3 million annually can in no way be viewed as high, particularly when put in the perspective of helping to most effectively drive the billions of dollars already being spent on nutrition-related health care and food assistance programs.

In conclusion, there seems to be no disagreement that conduct of a national nutrition monitoring system that meets a variety of users' needs is a correct and legitimate expansion of existing federal government responsibility. What is at issue is whether current federal efforts are meeting outside user needs and, if not, how these efforts might be improved.

One group of outside users was the President's Task Force on Food Assistance. Upon discovering that the lack of up-to-date data made it impossible to assess whether nutrition status in the country had worsened, they made four major recommendations. These were to improve the major nutrition surveys, expand uniform state reporting through the CDC surveillance program, develop new measurement tools based on HANES and the NFCS, and conduct smaller, more frequent surveys to give more current information.[16] It appears that there has been little response to those suggestions to date and that these provisions are precisely those which appear in HR 2436.

Unfortunately, there has been real misunderstanding of the progress being made through current efforts. In 1984, seven different reports on national nutrition status of the population and on nutrition monitoring activities were cited as being available, making new legislation unnecessary.[17] Of these seven reports, the four most recent are not generally available, either through conventional library search or individual written request of HHS.[18,19] In any case, these reports would not meet the needs of non-federal users for on-going and specific nutrition data.

These instances, together with the examples cited earlier in our testimony, lead us to conclude that legislation *is* needed in order to formalize and expedite information exchange and application between the federal experts and outside users and to assure that an array of needs are considered in the design and conduct of federal nutrition monitoring activities.

We urge your support of HR 2436 and will be pleased to answer any questions you may have.

Thank you for the opportunity to share our views.

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BIOGRAPHICAL SKETCH
JEFFREY R. TAYLOR, Ph.D.

Doctor Taylor is currently Chief, Division of Research, Demonstration and Evaluation, Michigan Department of Public Health. In this capacity he is responsible for designing new strategies in Michigan to modify lifestyle and reduce other individual and community health risks. The Division will conduct applied research and demonstration projects, create new knowledge in health promotion, and conduct cost/benefit and risk/benefit evaluations.

In past positions, Doctor Taylor has directed the Michigan Maternal and Child Health Program with over 70 professional staff and a budget of nearly $90 million; overseen operation of the Michigan Special Supplemental Food Program for Women, Infants and Children (WIC); on special assignment, chaired a committee to recommend on the redirection and restructuring of the Michigan mission for health promotion and disease control; and coordinated the development of a statewide Family Planning automated Records System.

Doctor Taylor has spoken and published extensively in the fields of prenatal care, infant mortality, child health and health promotion. Most recently he addressed the annual meetings of the Association of State and Territorial Public Health Nutrition Directors and the Association of Faculties of Graduate Programs in Public Health Nutrition in Chapel Hill, North Carolina. The conference subject was "Demystifying Data: Data use in State and Local Public Health Nutrition Programs -- Measuring Achievement of the 1990 Health Promotion/Disease Prevention Objectives for the Nation".

Mr. PANETTA. Thank you very much, Dr. Taylor.

Ms. Parker, rather than interrupt you in the middle of your testimony, we have a vote now, so what I would like to do is adjourn for the vote and then come back and hear your statement and then ask all of you questions.

The committee will be adjourned for the vote.

[Short recess taken.]

Mr. PANETTA. The hearing on the National Nutrition Monitoring and Related Research Act of 1985 will continue now. We appreciate your patience. These votes may pop up periodically as we go through the DOD bill, but I think we have a little time for the remaining testimony.

Ms. Parker, would you please proceed with your testimony.

STATEMENT OF LYNN PARKER, SENIOR NUTRITIONIST, FOOD RESEARCH AND ACTION CENTER, WASHINGTON, DC

Ms. PARKER. Mr. Chairman, thank you very much for the opportunity to speak to you today about H.R. 2436. I am Lynn Parker. I am senior nutritionist at the Food Research and Action Center. FRAC has had a long-standing interest in reaching the goals outlined by H.R. 2436, particularly as they seek to provide timely data about the nutritional problems of low-income people. Today, I not only speak for FRAC, but for 40 other consumer, antihunger, senior, local government, farm, educational, rural, and religions groups which are listed on the first two pages of my written testimony. I have to say that Mr. Brown is responsible for this. Last year, he told me to put them at the beginning, not at the end, and I have done so. We have 40, at this point, groups along with FRAC.

I would like to highlight some of my comments in my written testimony rather than go through the whole written testimony and start by saying that in some ways, the experience of speaking to you today is a deja vu experience. I feel like we have been here before many times. Last year, for example, the administration testified against H.R. 4684 saying that the coordinated system that the bill outlined was already being carried out. This year, I think we will face the same kind of testimony and the same kind of opposition.

But what has happened since last year? What more do we know about the nutritional needs of low-income citizens and our citizens in general in the United States?

I would argue that we are in the same sorry place that we were last year. We are still without the current data we need and still without hopes of getting that data in the near future. We know the current gross national product, we know cost-of-living increases, we know the housing index, unemployment statistics, but we have no recent data on national nutritional status or dietary intake, and this is at a time when poverty is as high as it was in 1965 and when reports continue to come from places around the country about unmet nutritional needs of U.S. citizens.

Ed Meese said it in 1983 when he said, "I have heard a lot of anecdotal stuff but I haven't heard any authoritative figures." Representative Roukema said it just last month when she decried the lack of authoritative data on nutritional problems in the United

States at a hearing held by the Select Committee on Hunger. And the President's Task Force, as Mr. Emerson stated earlier, said it again when they said the lack of up to date data was hampering their ability to assess whether there was a worsening of nutritional status in the United States.

During the last year, we haven't gotten many hopeful signs from the administration or the agencies that do nutrition monitoring. We have heard from HHS that they will delay the HANES until 1988 which means that the coordinated survey that was promised between the two agencies cannot take place. We hear from States that the Centers for Disease Control are not able to assist them as much as they would like in analyzing nutritional data because of fewer funds. In the budget document which came to us for 1986 from the Office of Management and Budget it was stated that the 1986 continuing survey funds from USDA would be used for the 1987 food consumption survey instead of the continuing survey.

Now, I understand that may still be a continuing problem. We are wondering if the continuing survey really will go on in the next few years.

It is vital for Congress to mandate that the agencies responsible for nutrition monitoring move us off the dime to a coordinated system. We need this information not only to understand data on undernutrition, but also to have a better system of understanding the nutritional status and dietary intake of our total population.

I think, and the organizations that I represent think, that H.R. 2436 can move us forward. We believe that the current surveys provide us with a great deal of useful data on long-term trends, but we as a nation are long overdue in moving to a new stage of data collection which involves greater timeliness of collection of data, increased efficiency, more interagency cooperation, and better cooperation and interaction between the Federal, State, and local governments.

We may be the best in the world. I don't know for sure, and I think it would depend on what standards you use to evaluate that, but why not be better if we can be better and why not improve if there are ways to improve that will help policymakers make better decisions?

The current problems with the U.S. monitoring system you have already heard many times. You have heard about the problem of data being 6 to 10 years old. You have heard about the problem of not being able to coordinate the data between surveys from different agencies. You have heard that we can't make estimates about the nutritional status of many vulnerable groups. You have heard that our methods need improvement in accuracy and standardization and uniformity and in decreased cost. You have heard that the States need more Federal assistance in doing nutrition monitoring at the State and local levels.

You may not have heard, and perhaps you have recognized, that nutrition monitoring seems to be carried out at this point sometimes at the whim of some agencies and budget analysts rather than on the basis of the kinds of information that we need—organizations like the 40 that I represent, scientific societies, the public health departments, and the policymakers like yourselves at the

Federal, State, and local levels that are trying to provide services that are needed.

We believe that H.R. 2436 could give us more timely data. It requires that by 1990 there be a continuous data collection. It requires annual reports to the President and the Congress on the nutritional status and dietary intake of U.S. citizens. We believe that 2436 would assure coordination between agencies by creating a board for nutrition monitoring and related research, and we think that by requiring the board to develop a plan of how the agencies will work together and what functions the different agencies will play will, for the first time, give us an interagency budget on nutrition monitoring which will mean that it will ensure the commitment of funds for these activities.

In this area, we commend the authors of the bill for maintaining the Human Nutrition Information Service at the Department of Agriculture and for making it clear throughout the legislation that the Department of Agriculture currently plays and should continue to play a vital and unique role in nutrition monitoring.

In another important area, we believe that H.R. 2436, by requiring statistically reliable estimates of trends among high risk groups and by requiring an analysis of a continuous sample of low income populations will allow us to understand better what is happening among nutritionally vulnerable groups in our country.

Another excellent feature of the bill is the improved methods that will come out of the National Science Foundation grants. With all the technological innovations we have in space launches, in artificial hearts, surely there are better and less invasive ways of finding out what the nutritional status and dietary intakes of our citizens are than we currently use. Surely, there are a lot of minds out there that could be working on those new and innovative methods if they had the funds to carry out that kind of research.

Of particular importance to us is the Federal, State, and local coordination that is emphasized in the bill. The grants programs through the Centers for Disease Control will assure that State and local governments get some of the kind of assistance that they need to look beyond their traditional clinic populations and look at the broader State and local populations and their nutritional problems.

We think that this State and local monitoring will go a long way toward pinpointing some of the pockets of hunger and malnutrition that national surveys may not be able to find. We think that with Federal assistance, States and localities can use uniform methods so that we can compare States and compare counties and bring that data together into a broad national picture.

The public involvement in the bill has been mentioned before. We think the advisory council and the submission of the plan to the Congress goes a long way toward involving experts and the public outside of the Federal Government system.

Finally, and probably most important of all to us, is that this bill makes it very clear that nutrition monitoring is vital, it is important, and it requires and is worthy of careful planning, adequate funding, and ongoing public scrutiny. We think what this bill does is take the resources that we are using now, realign some priorities, correct some inadequacies of the current system, and create for us a system that will not put us in the same position we are today, that will put us in a position where we will not hear the excuse, "I haven't heard any authoritative figures," that we will have those authoritative figures.

So, we think it is urgent that this system get underway, and we really encourage you and members of your subcommittees to do everything you can to see that H.R. 2436 is enacted into law this year.

I want to thank you for the opportunity of expressing our views.

[The prepared statement of Ms. Parker follows:]

TESTIMONY ON H.R. 2436

THE NATIONAL NUTRITION MONITORING
AND
RELATED RESEARCH ACT
OF 1985

BEFORE THE

House Subcommittee on Science, Research and Technology,

House Subcommittee on Department Operations, Research
and Foreign Agriculture

and

House Subcommittee on Domestic Marketing, Consumer Relations
and Nutrition.

June 25, 1985

Organizational Endorsers

American Association of Retired Persons

American Association of University Women

American Baptist Churches

American Federation of State, County, and Municipal Employees

American Home Economics Association

American Public Welfare Association

Bread for the World

Center for Science in the Public Interest

Center on Budget and Policy Priorities

Child Welfare League of America

Children's Defense Fund

The Children's Foundation

Clergy and Laity Concerned

Coalition on Block Grants and Human Needs

Community Nutrition Institute

Consumer Federation of America

Federation of Jewish Philanthropies (NY)

Food Research and Action Center

Friends Committee on National Legislation

Interfaith Action for Economic Justice

League of United Latin American Citizens

Lutheran Council, USA

Mennonite Central Committee

National Association of Counties

National Black Child Development Institute

National Consumers League

National Council of La Raza

National Council of Senior Citizens

National Farmers Union

National Grange

The National PTA

National Rural Housing Coalition

National School Boards Association

New York State Department of Education

Older Women's League

Public Voice for Food and Health Policy

Rural Coalition

United Church of Christ

United States Conference of Local Health Officers

World Hunger Education Service

World Hunger Year

Messr's. Chairmen and Subcommittee Members, thank you very much for the opportunity to speak to you today concerning H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1984. I am Lynn Parker, Senior Nutritionist at the Food Research and Action Center. FRAC has had a long-standing interest in reaching the goals outlined by H.R. 2436, particularly as they seek to provide timely and useful data about the nutritional problems of low-income people. Today, I not only speak for FRAC, but for over thirty consumer, anti-hunger, senior, local government, farm, educational, rural and religious groups, which are listed on the first page of my written testimony.

Little Progress Since Last Year

In some ways, the experience of speaking before you today gives me a sense of deja vu -- we've been here before, haven't we? Last year the Administration testified against H.R. 4684, stating that the coordinated nutrition monitoring program needed by the United States and envisioned by the bill was already being carried out. This year we face that same opposition and that same argument. But what has happened since last year? What more do we know about the nutritional status or dietary intake of our citizens?

I would argue that we are in the same sorry place we were last year -- still without the current data we need and still without hopes of getting it in the near future. We know the current gross national product, cost of living increases, the housing index, consumer sales, unemployment statistics, but we have no recent data on national nutritional status or dietary intake ... at a time when poverty is at its highest rate since

1965 and when reports continue to emerge from cities, counties, and states around the country concerning the unmet nutritional needs of our citizenry.

Ed . ese said it in 1983 -- "I've heard a lot of anecdotal stuff but I haven't heard any authoritative figures." Representative Roukema from New Jersey said it more recently at a joint hearing in May of the Select Committee on Hunger and the Subcommittee on Health and the Environment when she decried the lack of authoritative data on nutritional problems in the United States and pointed out that the only recent national survey--the report of the Physicians Task Force on Hunger--has been met with disbelief on the part of some members of Congress. The President's Task Force on Food Assistance said it in 1984 when they reported that the "lack of up-to-date data has made it impossible to assess whether the current nutritional status of the population has worsened over the last few years...."

During the year that has passed since we last testified in front of you, we found out that USDA and HHS will not be able to coordinate their next major surveys, as promised, because HHS made a decision to delay the 1987 Health and Nutrition Examination Survey until 1988. We also have heard from the states that it is more and more difficult for the Centers for Disease Control to assist them in analyzing nutritional data because fewer funds are being committed to nutrition.

It is vital for the Congress to mandate that the agencies responsible for nutrition monitoring move us off the dime toward a comprehensive and

and coordinated system to monitor nutritional status and dietary intake in the United States. We need this kind of a system not only for collecting and understanding data on undernutrition, but also so that we can more effectively monitor the nutritional status and dietary intake of the entire population.

How H.R. 2436 Can Move Us Forward

The current surveys provide us with a great deal of useful data on long-term trends. These data help to evaluate food assistance programs, plan nutrition education efforts, predict marketing trends, carry out epidemiological studies, understand the relationships of income, age, education, and other factors with nutritional status and dietary intake, etc.

However, we as a nation are long overdue in moving to a new stage of data collection which encompasses: greater timeliness in data collection, analysis, and dissemination, better data collection methods, increased efficiency and decreased costs, more interagency cooperation, and better cooperation and interaction between federal, state and local governments. Congress needs a coordinated, comprehensive system to make present and future policy decisions.

The current problems with U.S. nutrition monitoring are many, especially in light of the information we need now and will need in the future to make informed and compassionate public policy decisions. Let me describe a few. Most of the data we have now is 6 to 10 years old. The data from our surveys take years to collect, analyze, interpret, report and disseminate. The information collected by different agencies cannot be integrated at the present time. Most data collected now cannot give us estimates of the nutritional status or dietary intakes of sub-groups at risk. The methods of data collection which are used need improvement in accuracy, standardization and cost. There is little federal assistance provided to states in their nutrition monitoring efforts. Finally, nutrition monitoring is carried out without a consistent involvement of outside experts, policymakers, or the public, and sometimes appears to be done at the whim of the agencies and a few budget analysts.

Need for More Timely Data

H.R. 2436 would enact a national program that could provide us with the up-to-date data policymakers need. It requires that by 1990 there be a continuous collection, processing and analysis of nutritional and dietary status data that permits accelerated data analysis. It also requires annual reports to the President and Congress which analyze the dietary and nutritional status of the U.S. population, the nutritional quality of the food supply, policy implications of the findings and future monitoring and research needs. (In this area, we urge you to require completion of the first report by January 15, 1986.)

Need for Coordination

The most obvious sign of the lack of coordination between agencies is the fact that our two major surveys will again begin in different years rather than concurrently as planned and promised.

H.R. 2436 assures coordination by creating an Intergovernment Science Board for Nutrition Monitoring and Related Research to facilitate the management and implementation of the coordinated program. This Board consists of Assistant Secretaries from HHS, USDA, and the Department of the Army, as well as seven additional representatives chosen by these three joint chairpersons.

The bill requires the Board to develop a plan for coordinated and comprehensive nutrition monitoring. This plan would describe the activities to be undertaken by agencies involved, and serve as the basis on which each agency requests authorizations and appropriations for nutrition monitoring. Thus, for the first time, there would be an annual interagency budget for nutrition monitoring, ensuring the commitment of funds to these efforts.

In this area, we commend the authors of the bill on maintaining the Human Nutrition Information Service at USDA, and making it clear throughout the legislation that USDA currently plays, and should continue to play, a vital and unique role in nutrition monitoring of the U.S. population.

Information on Sub-groups of the Population

Information about the nutrition problems of sub-groups of the population gets lost when only national data is reviewed. H.R. 2436 requires that the continuous surveys carried out under the Act be designed to permit statistically reliable estimates of trends among high-risk groups and geographic areas. It also requires a program which assesses, analyzes and reports on a continuous basis for a representative sample of the low-income population, food and household expenditures, participation in food assistance programs, and periods experienced when resources were not sufficient to provide an adequate diet.

Improved Methods

For the purpose of developing better and less costly methods of data collection, the bill provides funds for a competitive grants program under the National Science Foundation. With all the technological innova- we hear about every day in the areas of space launches, artifical hearts, etc., surely there are less invasive, more precise and less costly methods that could be developed to determine dietary intake and nutritional status. We think this special grants program could and should encourage this kind of research.

Federal/State/Local Coordination

Although the bill establishes a central federal focus for coordinating, managing and directing national monitoring activities, it does a great deal, as well, to get states and localities more into the nutrition monitoring picture. A grants program is set up under the auspices of the Centers for Disease Control to encourage and assist state and local governments in developing the capacity to conduct monitoring and using that capacity to improve their nutrition services. The bill also directs the Secretary and the Board to include in their program scientific and technical assistance to state and local governments in obtaining dietary and nutritional status data.

These provisions are particularly important because state and local nutrition monitoring can pinpoint pockets of hunger or nutritional problems that can be overlooked even in the best national survey and act as early warning systems. Thus, these monitoring funds should be used to expand states' data collection beyond the traditional clinic population to the population as a whole. Federally funded technical assistance will ensure that this data is statistically valid and compatible with nationwide and other state statistics so that it can be used to enhance the overall picture of nutritional status.

Public Involvement

Another issue of great importance to us is the need for outside scrutiny of nutritional monitoring plans and activities. The presence of an Advisory Council and the submission of the comprehensive plan for Congressional and public review will allow policymakers and the public to have a say in what is done and an opportunity to understand the implications of what is learned.

Congressional Mandate

Finally, and in some ways most important of all, H.R. 2436 will make it very clear to the agencies engaged in nutrition monitoring, or involved in budget decisions affecting the quality and extent of nutrition monitoring efforts, that this is a vital and important activity of the federal government, worthy of careful planning, adequate funding, and on-going public scrutiny.

Need for a National Nutrition Monitoring System

Until a timely and efficient system of national nutritional status monitoring is in place, government leaders must depend on information provided by sproradic hunger surveys and reports done by private and voluntary groups. These reports, though useful in pointing out potential problems, only describe small pieces of the hunger puzzle and are often dismissed by those who do not want to believe their results.

In fact, it is not surprising at all to see the broad support this bill has received last year and again this year, when we consider the unmet needs which it fulfills. What is surprising is that the agencies which ought to be demanding just this kind of coordination, Congressional support, and improved nutrition surveillance are opposing this bill.

A comprehensive nutritional monitoring plan is needed as a means of correcting inadequacies of current efforts. What H.R. 2436 does is take the resources the United States is currently using for nutrition monitoring and directs that they be used in a coordinated and more cost-effective manner. It also realigns some of the priorities for the use of these funds. Without comprehensive nutrition monitoring, we can expect to be faced with the same problems we have now in determining the nutritional status and dietary intake of the most vulnerable groups in our population. And we will doubtless hear again the excuse, "I haven't heard any authoritative figures." It is urgent that the system get underway. We encourage you as members of these three important subcommittees to see that the National Nutrition Monitoring and Related Research Act of 1985, H.R. 2436, is enacted into law this year.

Thank you for the opportunity to express our views.

Mr. PANETTA. Thank you very much, and thank you all for the testimony that you have provided on this issue.

Dr. Nesheim, I am particularly interested in the study that you mentioned with regard to soup kitchens and food pantries. It seems to me that one of the frustrating things is that when we have gone out and done the hearings and seen the problem out there, yet when we come back here, there just is no information here as to what is happening out in the country. Obviously, the principal focus, at least my principal focus is the most vulnerable in our society, because I think if there is a nutrition problem that is being bred by lack of food, that should be of primary concern to all of us.

What I am interested in is, what did you focus on in your study and did you in fact complete your report and is that available to us?

Dr. NESHEIM. Yes. We have undertaken with the New York State Department of Health to try to set up a statewide nutrition surveillance and monitoring system in New York State that will be useful for people who are managing State programs. New York State has appropriated some State funds to supplement some of the Federal programs in areas of WIC, work with the elderly and the homeless. As part of that effort, we have been working with the Department of Health to try to get some information to really say what is going on.

One of the first things that we wanted to find out is really what is the universe out there. What is happening with people in the communities? How are they being fed, what is the extent of some of the community efforts that are going on in terms of alleviating some of the real need that is there?

So, we have undertaken as a first step a census, an actual census of all of these places in the State. Using what we think is some pretty good methodology that tries to smoke out all the places we can possibly find both in upstate New York and in New York City, we have now established a universe of how many places there are that are actually feeding people in groups or are food pantries and offering food for people who need it. We have now a complete census of this. We know where they are. We have some idea of the numbers of people that they are serving.

We now want to take that a step further and get an idea of who these people really are. Why are they coming to those services? What is the nature of that population?

But this is a first step. The report has been published, and I can see that you get a copy of it, Mr. Panetta.

Mr. PANETTA. Let me take you to the next step. Once you have identified the group, and I admit that is the first step, what are the next questions?

Dr. NESHEIM. Well, one of the questions that this was aimed at was, first of all, can we use that as some kind of an indicator of what is happening in the communities relative to food and nutrition services? One of the questions we asked, for example, is how long have they been in existence? Have they seen any change in their clientele over a period of time?

Sixty percent of the respondents said that they have had an increase in people using their services within the past year. As I indicated earlier, over half of these have only been in existence for about 4 or 5 years.

One of the purposes of trying to get this universe is that New York State has been, through provision of funds by the New York State Legislature, trying to help these community groups that have been servicing this population by actually providing some funds to support their activities. Recognize that these are 1,200 and some sites that are basically volunteer activities. This is a voluntary network that is going on throughout the State.

So, the purpose of it has been, first of all, to try to get an idea of can we monitor some of the things that have been happening in the community by doing it. Can we target our resources that we have available to help this effort? We now want to take this a step further to really understand the people that are there and why they are not using existing services and all of this sort of thing.

Mr. **Panetta.** Let me take you to the bottomline. You are director of nutritional services. One of the things we always run into is that we don't quite know what questions to ask to really get at the question related to the nutritional status of those individuals. Is it that tough? I mean, if you have a targeted group that is going to soup kitchens, is it that tough to try to pin down the nutritional status of the people that are there?

Dr. **Nesheim.** We are always focusing on this question of nutritional status. Nutritional status means, to a nutrition professional, can you find evidence of clinical malnutrition among these individuals by growth reductions, anemia, vitamin deficiency, you name it. I am not sure that in every case that is the right question to ask, because clinical evidence of malnutrition happens after there has been a period of deprivation and problem in hunger.

I think one of the real questions that we want as a society is do we want to tolerate a population in this country that develops enough problem with getting access to food that they develop clinical malnutrition, or is the existence of hunger itself the concern that we should take and we shouldn't be spending quite so much time on saying do we actually have clinical malnutrition, because this is a fairly late sign. So, we don't know whether we can now take that population and do the traditional nutritional status measurements and come up with an estimate of what they are like, but I am not sure that is the right question to ask.

Mr. **Panetta.** The only reason I am smiling is because that is a pretty basic approach that you are suggesting which doesn't get all hung up in the nuances of whether it is anemia or whatever it is. What you are basically saying is, let's look at the numbers of people who are going to soup kitchens, food pantries, and what have you, and that is a pretty good bet that the people in those categories are at least likely victims of nutritional problems.

Dr. **Nesheim.** There is a sign that something is going on out there. Exactly what that is we are not absolutely certain, but it is a sign of something happening.

Mr. **Panetta.** Well, that shouldn't be too complicated.

Dr. **Nesheim.** Most surveillance systems have to use proxy indicators. That is the thing we are talking about. Any surveillance system that is only going to use the existence of starvation and hunger and real clinical problems isn't a very effective system. The things that we have done internationally in helping set up early warning systems for the Government of Indonesia, for example, and so forth, we have to go to proxy indicators. By the time you see clinical malnutrition, it is too late. We look at other things, and we think that this emergency services in the community might be a very interesting proxy indicator for surveillance purposes ourselves.

Mr. **Panetta**. I would appreciate it if you would make your report part of the record.

Dr. **Nesheim**. Thank you. I will see that you get it.

[See appendix; Joint Report on Emergency Food Relief in New York State, April 1985.]

Mr. **Panetta**. Thank you very much.

Mr. MacKay.

Mr. **MacKay**. I don't have any questions. I would just like to express my appreciation to you and all of you for your continued support in this effort. I hope you will continue to beat the drum. There are some proxy indicators up here as to what is happening.

Mr. **Panetta**. Mr. Morrison.

Mr. **Morrison**. I just wanted to ask, knowing that we have to run and vote, Mr. Chairman, if the problem with this legislation, the reason it hasn't moved in the past, is perhaps within the agencies involved, HHS and USDA. Those of us and Mr. Panetta who represent the Agriculture Committee know of some of the concerns there. Would we be better to go to a neutral agency, a neutral party that is used to asking questions such as the Bureau of the Census just in reading what people actually consume and let somebody else do the interpreting on their own? Has that been considered at all?

Dr. **Nesheim**. I don't know if it has been considered. You know, the people who have the expertise in what we are talking about are HHS and USDA. That is where the real basic expertise lies. I don't quite understand why we have so much trouble over saying why can't we get together and do these things. I think it is more a matter of will on the part of both groups that says yes, we are going to do it. I think the people I know who work in those agencies are not overly turf conscious. They want to get the job done, and I think coordination is possible.

Ms. **Parker**. I would just add from the perspective of the organizations I am representing it really seems to be a question of priority more than anything. Is nutrition monitoring important? Is it important to have this information available as soon as we can get it? Is it important to continue to fund these efforts in nutrition monitoring? That is the real question.

I think that unless it is clear to the agencies, to the Office of Management and Budget, to the administration, and this is not just for this administration but for past administrations as well, unless it becomes clear that this information is needed, that it is essential for future planning, for cutting down future health care costs, for agricultural planning, unless it becomes clear that this information is vital, that the system is vital, it is just not going to happen. Apparently, that message has not gotten across yet, and I think this bill goes far toward getting that message across.

Mr. **Morrison**. I would editorialize only to say that I think part of the problem is in the fear of interpretation, so I throw out my neutral party idea only from the point of view of here is the data; everybody interpret it your own way. But at least the data is there for the purpose of Mr. Panetta's subcommittee which is very concerned about this and for commodity groups and other people that are concerned from the production point of view.

Mr. Chairman, thank you.

Mr. **Panetta**. Mr. Brown.

Mr. **Brown**. I have no questions.

Mr. **Panetta**. Again, thank you all for your testimony. We will be going to the next panel.

This is a vote on an amendment to the DOD authorization, and we will now adjourn for this vote and then return and continue the hearing.

[Short recess taken.]

Mr. **Brown** [acting chairman]. May we gradually resume our positions again?

As the currently acting chairman, I wish to apologize again for the disruption created by the House schedule, but we are, I think, compiling an extremely valuable record despite the many obstacles and we are going to continue to try to make the very best out of the very difficult circumstances.

We have our next panel, and one of the scheduled witnesses representing the United Egg Producers is not going to be able to be present but has submitted testimony. At this point, I would like to ask unanimous consent that that testimony be included in the record. Furthermore, I would like to ask unanimous consent that the record be held open for 2 weeks so that any additional testimony which may be submitted can be included in the record also.

[See appendix for additional testimony submitted for the record.]

[Testimony of United Egg Producers follows:]

STATEMENT OF THE
UNITED EGG PRODUCERS

ON

H.R. 2436

June 25, 1985

Mr. Chairman and Members of the Committee, last year the United Egg Producers were pleased to endorse your bill -- H.R. 4684 -- which would have established a coordinated national nutrition monitoring program. We again look forward to lending our full and enthusiastic support to similar legislation before the 99th Congress.

First and foremost, the agricultural sector has a vital interest and a traditional role in any federal activities regarding the monitoring, assessment, or improvement of human nutrition. For over two hundred years the American agricultural sector has provided the citizenry of this country with the most affordable, nutritious, and varietal food supply system in the world.

In the past twenty years the scientific and medical community have made enormous strides in the once nascent science of nutrition research. In 1985 we have a heretofore unimagined technological and scientific ability to research the nutrient values of the foods we eat and to understand the fundamental effect that these have on the general health of the American public. Continued advances in this field can only serve to save lives and money as Americans become better informed and better able to maintain healthy dietary practices.

As such, American agriculture and the science of nutrition monitoring and nutrition research are inexorably linked, both philosophically and practically. As American agriculture strives to provide Americans with a dependable, economical, and nutritional food supply, the health community must continue to inform the American public of advances in nutrition research and the practical conclusions of such research.

With this in mind we appreciate the opportunity to comment on certain provisions of H.R. 2436 -- legislation to establish a coordinated National Nutritional Monitoring and Related Research program:

1. Title I, Sec. 101, (b): "The Secretary of Health and Human Services shall be responsible for the implementation of the coordinated program."

We feel that in the area of nutrition, agriculture and the health community are, in fact, inexorably linked, and that this federal program should acknowledge that link and assign joint responsibility for the administering of the program to the Secretary of Health and Human Services and the Secretary of Agriculture.

The assigning of sole administrative responsibility to the Secretary of Health and Human Services will generate two specific practical difficulties.

First, under the terms of this legislation the 5 category definition of monitoring is so broad (Sec. 4, (1)), that it would give the Secretary of DHHS ultimate administrative authority over several activities and programs which are currently conducted solely under the auspices of USDA and not in joint consultation with DHHS. This would inevitably generate administrative problems. For example, the gathering of information regarding "food supply and demand determinations" (Sec. 4, (1)(E)) is currently done by the Economic Research Service/USDA.

A second administrative difficulty which this legislation would generate is that it denies several important users of the information which would be gathered guaranteed institutional input regarding nutrition monitoring policy decisions. For example, the Child Nutrition and Food Stamp programs are very important users of nutrition monitoring data. Certainly administrators of these programs should be guaranteed input with regards to what information is collected and how it is collected.

Another extremely important use of the information which would be monitored and interpreted under the terms of this legislation should ultimately be to facilitate the coordination of research efforts between the production scientists at USDA and the nutritionists evaluating the effect of consuming food commodities. Assigning sole administrative responsibility to the Secretary of Health and Human Services will not only not facilitate this cooperation, it will likely impede current efforts.

While the assigning of joint responsibility may seem to be, in the short term, more complex administratively, the sensitivities are such that in the long run a jointly administered program would serve to abate these sensitivities.

foster communication, improve cooperation and provide for the resolution of any differences on a policy level. In our estimation the added administrative complexity of joint responsibility would simply be worth the effort.

If the Directorate established by last year's bill (H.R. 4684) is deemed to be an unreasonably cumbersome organizational structure, the agriculture community would be willing to cooperate with the sponsors of this year's legislation to develop a less cumbersome structure which would still assign joint responsibility.

2. Title I, Sec. 102(a)(8) -- The Secretary shall "contract with a scientific body, such as the National Academy of Sciences or the Federation of American Societies for Experimental Biology, to interpret available data analyses and to publish every two years, or more frequently if appropriate, a report on the dietary, nutritional and health-related status of the population of the United States and nutritional quality of the national food supply, with recommendations for dietary guidance and effective communication of such guidance to the public."

We propose that the statement in 102(a)(8) calling for "recommendations for dietary guidance and effective communication of such guidance" from NAS or FASEB or anyone else be deleted.

Last year the interpretive and reporting functions were given to the jointly administered (DHHS, USDA, DOD) Directorate. We are comfortable with the changes in this year's legislation which would contract out for these functions but not with including the clause "recommendations for dietary guidance and effective communication of such guidance to the public." The issuance of dietary guidance falls well beyond the perimeters of "human nutrition monitoring and related research" as defined within the legislation itself, (Sec. 4, (1)(A-E)), and will entangle the legislation in a very complex area.

We appreciate the opportunity to express our viewpoint with regard to H.R. 2436 and offer the above comments not so much as objections, but as a starting point for discussion. The legislation addresses a very important subject which portends to have tremendous implications for public health and the agricultural sector shares with yourself and the professional health community a commitment to the public service it intends to provide.

Our primary concern, however, is that H.R. 2436 be respectful of the historical and rightful role of the Department of Agriculture in the field of human nutrition, and mindful of the fact that participation in such activities is considered an integral and valued component of the Department's general mission. As such, we strongly urge that H.R. 2436 be amended to assign joint responsibility for the administering of the mandated programs to both the Secretary of Health and Human Services and the Secretary of Agriculture.

The improvement of the nutritional and dietary status of the American population is a concern shared by the agricultural and public health sectors, and should, in keeping with existing legislation and in accordance with historical practice, be a shared responsibility. We look forward to lending our full and enthusiastic support to legislation which would establish a coordinated national nutrition monitoring program and a comprehensive plan for the assessment of the nutritional and dietary status of the United States population and the nutritional quality of the United States food supply. To this end, we look forward to working with yourself and other sponsors of H.R. 2436.

Thank you for the opportunity to testify. We would be happy to answer any questions.

Mr. BROWN. Having completed that, we now welcome our other two witnesses, Ms. Hoting, representing the American Meat Institute and Dr. Alcantara who represents the National Dairy Council. Ms. Hoting, would you proceed first.

STATEMENT OF HILARIE HOTING, DIRECTOR OF NUTRITION AND CONSUMER AFFAIRS, AMERICAN MEAT INSTITUTE

Ms. HOTING. Good afternoon, Mr. Chairman. My name is Hilarie Hoting. I am director of nutrition and consumer affairs for the American Meat Institute, the national trade association representing meat packers and processors.

I would like to summarize my comments and request that my written statement be made part of the hearing record.

Mr. BROWN. Without objection, so ordered.

Ms. HOTING. Thank you.

The American Meat Institute supports the concept of coordinated nutrition monitoring. We would, however, like to express our concerns regarding several proposals contained in the bill.

The first concern is that the Department of Health and Human Services would be ultimately responsible for all of the nutrition monitoring activities contemplated under the bill. The Department of Agriculture has been increasingly committed to nutrition monitoring in recent years. Three of the five activity areas involved in H.R. 2436 are currently under the responsibility of USDA so designated by the farm bill of 1977.

These activities are, No. 1, conducting food consumption surveys; No. 2, developing food consumption analyses and nutrient data bases; and, No. 3, making food supply and demand determinations. H.R. 2436 would transfer these activities to another agency and inevitably disrupt progress and continuity in these important areas.

Dietary guidance and effective communication to the public as specified under section 102 we believe are inappropriately included in this monitoring bill. These are nutrition education activities, not monitoring activities. In addition, the specific organizations mentioned in section 102(8) are not noted for expertise in the area of nutrition education.

The bill would establish an expensive and cumbersome management structure and a new layer of bureaucracy in this area. As such, it may hinder rather than expedite many nutrition monitoring activities. In view of its traditional responsibilities in the area of food assistance programs and nutrition education and since much of the value of dietary monitoring is food and agriculture related, it is essential that USDA maintain its current role in nutrition monitoring.

We urge you to make appropriate modifications in the bill to address concerns outlined in our testimony.

Thank you.

[The prepared statement of Ms. Hoting follows:]

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Serving The Meat Industry Since 1906

STATEMENT BY

HILARIE HOTING

DIRECTOR OF NUTRITION AND CONSUMER AFFAIRS

OF THE AMERICAN MEAT INSTITUTE

REGARDING H.R. 2436 THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH PROGRAM

JOINT HEARING
BEFORE THE

U.S. HOUSE OF REPRESENTATIVES
HOUSE COMMITTEE ON AGRICULTURE
SUBCOMMITTEE ON DOMESTIC MARKETING,
CONSUMER RELATIONS AND NUTRITION
AND SUBCOMMITTEE ON DEPARTMENT OPERATIONS,
RESEARCH AND FOREIGN AGRICULTURE

AND

UNITED STATES SENATE
COMMITTEE ON SCIENCE & TECHNOLOGY
SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHOLOGY

JUNE 25, 1985

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*As of April 1984
**Immediate Past Chairman

Good morning, Mr. Chairman. My name is Hilarie Hoting, and I am Director of Nutrition and Consumer Affairs for the American Meat Institute, the national trade association representing meat packers and processors.

The American Meat Institute (AMI) supports the concept of coordinated nutrition monitoring in order to assure a healthy American public and to guide our policy makers in reaching informed decisions on programs relating to the health and nutrition of targeted constituencies.

Of primary concern to AMI is that the Department of Health and Human Service (DHHS) is ultimately responsible for nutrition monitoring activities contemplated under H.R. 2436.

Legislative authority for nutrition research has rested with the U.S. Department of Agriculture (USDA) since its inception in 1862. Specific authority for nutritional monitoring of the population and human nutrition research was given to USDA by the Agriculture Research Act of June 29, 1935 (Title 7, U.S.C. 427). This public law directed USDA to conduct surveys of the food consumption patterns of Americans.

Congress, in the National Agricultural Research and Extension and Teaching Policy Act of 1977, (Title 7, U.S.C. 3121, Section 1403) designated USDA as the lead agency for food and agricultural research, extension, and teaching in the food and agricultural sciences. Section 1423 of the Act states that:

> "The Secretary shall establish research into food and human nutrition as a separate and distinct mission of the Department of Agriculture and the Secretary shall increase support for such research to a level that provides resources adequate to meet the policy of this subtitle."

Section 1402 of the 1977 Act cites specific areas for expansion of nutrition research:

> "...the Federal Government of the United States has provided funding support for agricultural research and extension for many years in order to promote and protect the general health and welfare of the people of the United States, and this support has significantly contributed to the development of the Nation's agricultural system;... and that new Federal initiatives are need in the areas of ... (B) research and extension of human nutrition and food consumption patterns in order to improve the health and vitality of the people of the United States;..."

Again, on June 13, 1985, the House Agriculture Committee's Domestic Marketing Consumer Relations and Nutrition Subcommittee added a nutrition monitoring provision to the food assistance segment of the 1985 Farm Bill, directing the Secretary to continue to carry out a nutrition monitoring program. It is apparent to us, that the legislative history of nutrition monitoring and research clearly indicates that Congress meant for the Secretary of Agriculture to play a significant role in conducting nutrition monitoring and education programs.

Under H.R. 2346, three of the five activity areas included are currently under the responsibilities of USDA, as designated in the 1977 Farm Bill. These include development of:

o food consumption surveys;

o food consumption analysis and nutrient data bases; and

o food supply and demand determinations.

H.R. 2346 would transfer these activities to another agency, and inevitably disrupt progress and continuity in these important areas.

These activities are directly related to, and essential to the continued success of many ongoing USDA programs.

Information on food and nutrient consumption is provided in forms readily applicable to multiple policy and program uses relating to agriculture, food assistance intervention, foodquality, regulation, and nutrition information. All these functions are directly related to programs now fully under the purview of the Secretary of Agriculture.

To cite an example of the interrelationship between nutrition research and monitoring and USDA programs one need only look at the Human Nutrition Information Service (HNIS). Data generated by the (HNIS) is being used by nine USDA agencies for a wide variety of applications such as: conducting food and nutrition research; administering food assistance programs; conducting inspection, marketing, and procurement programs; and providing food and nutrition information and education materials to professionals and the public.

The Human Nutrition Information Service is the national resource for up-to-date information on the nutritive value of all foods important in American diets. Data from industry, government, universities, and the literature are evaluated and compiled. Over the last two decade, USDA's nutrient and data scientists have built a very strong working relationship of mutual trust with the food industry and agribusiness. This trust has resulted in industry providing masses of proprietary information on the nutrient content of their foods and in industry support and cooperation in major analytical studies, especially meat.

The American Meat Institute is opposed to H.R. 2436 in its current form for several reasons.

(1) A national nutrition monitoring system is already being implemented systematically under existing law. The new structure envisioned in H.R. 2436 would hamper, not facilitate, a coordinated nutrition monitoring program due to the cumbersome, bureaucratic management structure.

(2) Implementing H.R. 2436 would be several times more expensive than the current cost of existing programs.

(3) The approach would adversely effect USDA programs ability to comply with legislatively mandated goals. It could result in budget decisions regarding USDA programs controlled, at least in theory, by the Secretary of Health and Human Services.

(4) Finally, the dietary guidance and effective communication to the public as specified under Section 102 are inappropriatly included in this monitoring bill. These are nutrition education activities, not monitoring

activities. The specific organization mentioned in Section 102, (8) are not experts in the area of nutrition education.

The American Meat Institute could support H.R. 2436 provided it continued the current cooperative effort between USDA and DHHS as the most appropriate management mechanism. Also, by excluding references to maintenance of food supplies and nutritional status which would include intervention programs and food assistance and nutrition education as well as agricultural programs related to food supplies.

This concludes our statement, Mr. Chairman, and we would be happy to answer any questions.

Mr. BROWN. Thank you very much, Ms. Hoting. Dr. Alcantara.

STATEMENT OF DR. EMERITA N. ALCANTARA, DIRECTOR, NUTRITION POLICY ISSUES, DIVISION OF NUTRITION RESEARCH, NATIONAL DAIRY COUNCIL

Dr. ALCANTARA. Thank you very much.

I am Emerita Alcantara, director of nutrition policy issues at the National Dairy Council. I appreciate the opportunity to once again appear before you to discuss nutrition monitoring. On behalf of the National Dairy Council, I thank you for inviting us to testify at this hearing and present our views on the National Nutrition Monitoring and Related Research Act of 1985 or H.R. 2436.

At this point, I would like to request that our prepared statement be included in the hearing record.

Mr. BROWN. Without objection.

Dr. ALCANTARA. Thank you.

By way of background, the National Dairy Council was established in 1915 as a nonprofit, educational, scientific organization whose mission is to contribute to optimal health through nutrition research and nutrition education. Dairy Council is both a national and a local program with the national office directing the national programs and 33 affiliated Dairy Council units with offices in 126 locations across the Nation bringing these programs and services to their respective areas.

The Nationwide Food Consumption Survey or NFCS and the National Health and Nutrition Examination Survey, NHANES, are very important to us at the National Dairy Council because we draw from the data bases generated by these two surveys in the development and implementation of our programs. These data help form the basis for Dairy Council's nationwide efforts to inform the American public about wise food choices and the importance of adequate nutrient intake.

National Dairy Council publishes a wide spectrum of nutrition education materials and programs for a variety of audiences, including health professionals, teachers, and consumers of all ages. A complete listing of these materials and programs is provided in this catalog, a copy of which has been included in the set of materials provided to you today.

I would like to share with you some specific examples of how we use the data from the two national surveys and also illustrate some of the uniqueness of the data from these surveys.

My first example is this brochure called "Fast Food: Junk? Gems? or Just OK?" The development of this colorful brochure was based on the findings of the NFCS that fast food places account for about 13 percent of the eating occasions away from home. In addition, the NFCS found that foods obtained and eaten away from home had low amounts of calcium, vitamins A and C, and they were high in calories. NDC's brochure points out these concerns and provides suggestions to consumers on how to improve the nutritional value of various fast food meals.

It is important to note that the data from the NFCS that served as the basis for the development of this brochure are not available in NHANES. On the other hand, there are data from NHANES that are not available in NFCS. For example, data on blood cholesterol levels and daily cholesterol intakes are included in NHANES II. That is the survey that was done from 1976 through 1980. National Dairy Council has used these data in the development of resource materials such as the September–October 1984 issue of the Dairy Council Digest which provides a nutrition update on fat and cholesterol and a resource packet on contemporary topics in nutrition which provides health professionals with information on cholesterol as well as fat, sugar, and sodium.

In addition to utilizing the NFCS and NHANES data in our educational materials and programs, National Dairy Council also uses these data in providing direction to the nutrition research grant in aid program. For example, both surveys have shown that many Americans are not consuming the recommended dietary allowance for calcium. To investigate some of the effects of this trend, the dairy industry has placed greater emphasis in the grant in aid program on the role of dietary calcium in health, especially as it relates to bone health and blood pressure regulation.

The two lists that have been provided to you list the current grants, and they demonstrate the depth and breadth of the research that we have in the calcium area.

As you have seen from these previous examples, we utilize both the NFCS data and the NHANES data in a variety of ways. We feel it is imperative that both data bases be maintained. As noted by the Food and Nutrition Board Coordinating Committee on Evaluation of Food Consumption Surveys, the two surveys, although they have certain features in common, have different purposes and uses. NFCS provides a measure of food consumption as related to food and nutrient intake and economics while NHANES relates dietary intake to health and nutritional status.

These data are interdependent, especially as they provide direction to education and research efforts. This interdependence also applies to the agencies administering the surveys. Each has unique qualifications and objectives in data collection yet coordination by the agencies would facilitate wider application of the resulting survey data.

National Dairy Council concurs with the recommendations of the Food and Nutrition Board Coordinating Committee in that the present system of two separate national surveys should continue. The two surveys should continue to collect dietary intake data, but a common methodology should be developed and implemented. The two surveys should be linked through compatible sampling and population descriptors, and a mechanism should be developed to ensure timely data release and reporting.

National Dairy Council believes that these recommendations can best be accomplished by assigning joint responsibility to the U.S. Department of Agriculture and U.S. Department of Health and Human Services. Joint responsibility and cooperative efforts between the two agencies rather than designating one department as lead agency will ensure maintenance of the integrity of each survey and therefore the continued provision of much needed data on food, nutrition, and health.

Moreover, joint responsibility would prevent the administratively difficult situation that H.R. 2436 would create whereby Health and Human Services, because of the definition of nutrition monitoring in the legislation, would have ultimate authority over several functions of USDA.

The other concern we have is that H.R. 2436 would make the development of recommendations for dietary guidance part of nutrition monitoring. We believe this is beyond the scope of the definition of nutrition monitoring and urge the removal of this activity from the proposed legislation.

We request clarification on one aspect of H.R. 2436, that is, the section which deals with the cost recovery and charges and fees for publications of the coordinated program. We support recovery of the cost of printing and distribution of such materials, but we are unclear as to the meaning of foster cost recovery techniques.

In summary, National Dairy Council recommends:

One, the present system of two separate national surveys should continue, but that a common methodology be developed and a mechanism put in place for timely reporting.

Two, the U.S. Department of Health and Human Services and U.S. Department of Agriculture should continue to have joint responsibility for nutrition monitoring.

Three, dietary guidance and activity beyond the scope of nutrition monitoring and related research should be removed from the legislation.

Four, the provision concerning cost recovery techniques should be clarified.

We commend you for your continued interest and efforts to establish a coordinated national nutrition monitoring program, and we thank you for the opportunity to submit our comments.

[The prepared statement of Dr. Alcantara follows:]

STATEMENT
OF THE
NATIONAL DAIRY COUNCIL

ON

THE NATIONAL NUTRITION MONITORING
AND RELATED RESEARCH ACT OF 1985
(H.R. 2436)

BEFORE THE

SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY
HOUSE COMMITTEE ON SCIENCE AND TECHNOLOGY

AND

SUBCOMMITTEE ON DEPARTMENT OPERATIONS,
RESEARCH AND FOREIGN AGRICULTURE
HOUSE COMMITTEE ON AGRICULTURE

AND

SUBCOMMITTEE ON DOMESTIC MARKETING,
CONSUMER RELATIONS, AND NUTRITION
HOUSE COMMITTEE ON AGRICULTURE

Presented by
Emerita N. Alcantara, Ph.D., R.D.
Director, Nutrition Policy Issues
Division of Nutrition Research
National Dairy Council
June 25, 1985

Messrs. Chairmen and members of the Subcommittees: I am Emerita N. Alcantara, Ph.D., R.D., Director of Nutrition Policy Issues, National Dairy Council. I appreciate the opportunity to once again appear before you to discuss the importance of a coordinated National Nutrition Monitoring System. On behalf of the National Dairy Council, I thank you for inviting us to testify at this hearing and present our views on the National Nutrition Monitoring and Related Research Act of 1985 (H.R. 2436).

Established in 1915, National Dairy Council (NDC) is a nonprofit educational-scientific organization whose mission is to contribute to optimal health through leadership in nutrition research and nutrition education. Dairy Council is both a national and a community program, with the national office directing the national programs, and 33 affiliated Dairy Council units with offices in 126 locations across the nation and approximately 250 Dairy Council professional staff members bringing these programs and services to their respective areas throughout the United States.

I will focus on certain provisions of the National Nutrition Monitoring and Related Research Act of 1985 particularly as they relate to our usage of the data from the Nationwide Food Consumption Survey (NFCS) and the National Health and Nutrition Examination Survey (NHANES). NDC draws from the data bases generated by NFCS and NHANES in the development and implementation of our nutrition research and nutrition education programs. These data help form the basis for Dairy Council's nationwide efforts to inform the American public about wise food choices and the importance of adequate nutrient intake.

NDC publishes a wide spectrum of nutrition education materials and programs for a variety of audiences, such as health professionals, elementary and secondary school teachers, and consumers of all ages. I would like to share with you specific examples of how NDC uses the data from NFCS and NHANES in these materials.

My first example is the brochure developed by NDC for adult consumers entitled, Fast Food: Junk? Gems? or Just OK? The development of this colorful brochure was based on the findings of the NFCS that fast food places account for about 13 percent of the eating occasions away from home. In addition, the NFCS found that foods obtained and eaten away from home had low amounts of calcium, vitamins A and C and they were high in calories. NDC's brochure points out these concerns and provides suggestions to consumers on how to improve the nutritional value of various fast food meals.

It is important to note that the data from the NFCS that served as the impetus for the development of the brochure are not available in NHANES. On the other hand, there are data from NHANES that are not available in NFCS. For example, data on mean blood cholesterol levels of males (211 mg/100 ml) and females

(215 mg/100 ml) and mean daily cholesterol intake of males (405 mg) and females (266 mg) are included in NHANES II (1976-1980). NDC has used these data in the development of resource materials such as the September-October 1984 issue of Dairy Council Digest, which provides a nutrition update on fat and cholesterol, and Contemporary Topics in Nutrition, which provides health professionals with a summary of up-to-date, scientifically sound information on cholesterol, and also on fat, sugar and sodium.

These are just three examples of the uses of the data that are available from each of the surveys. In addition to utilizing the NFCS and NHANES data in its educational materials and programs, NDC also uses these data in providing direction to its nutrition research grant-in-aid program. For example, both the NFCS and NHANES data have shown that many Americans are not consuming the Recommended Dietary Allowance for calcium. To investigate some of the effects of this trend, the dairy industry has placed greater emphasis in the grant-in-aid program on the role of dietary calcium in health, especially as it relates to bone health and blood pressure regulation. The attached lists of current grants demonstrate the depth and breadth of this research.

We wish to stress the importance of both the NFCS data and the NHANES data to the development of our Nutrition Research and Nutrition Education programs. As you have seen from the previous examples, NDC utilizes both sets of data in a variety of ways. It is imperative that both data bases be maintained. As noted by the Coordinating Committee on Evaluation of Food Consumption Surveys which was established under the auspices of the Food and Nutrition Board, National Research Council-National Academy of Sciences, the two surveys--although they have certain features in common--have different purposes and uses. They cannot be merged into a single survey without the risk of compromising some of their separate fundamental purposes. NFCS provides a measure of food consumption as related to food and nutrient intake and economics, while NHANES relates dietary intake to health and nutritional status. These data are interdependent especially as they provide direction to the education and research efforts of the nutrition community, in general, and NDC, in particular. This interdependence also applies to the agencies administering the surveys. Each has unique qualifications and objectives in data collection related to its specific survey, yet coordination by the agencies would facilitate wider application of the resulting survey data.

NDC concurs with the recommendations of the Coordinating Committee on Evaluation of Food Consumption Surveys in that:

1) the present system of two separate national surveys should continue.

2) the two surveys should continue to collect dietary intake data, but that a common methodological core in both surveys be developed and implemented.

3) the two surveys should be linked through compatible sampling and population descriptors.

4) a mechanism should be developed to ensure timely data release and reporting.

NDC believes that these recommendations can best be accomplished by assigning joint responsibility for a coordinated national nutrition monitoring program to the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (USDHHS). Joint responsibility and cooperative efforts between USDA and USDHHS, rather than designating one department as lead agency, will ensure maintenance of the integrity of each survey and, therefore, the continued provision of much needed data on food, nutrition and health. Moreover, joint responsibility between the two departments would prevent the administratively difficult situation that H.R. 2436 would create whereby USDHHS, because of the broad definition of nutrition monitoring in the legislation, would have ultimate authority over several functions of USDA.

The other concern we have is that H.R. 2436 would make the development of recommendations for dietary guidance and effective communication of such guidance to the public part of the nutrition monitoring and related research program. We believe that this is beyond the scope of the definition of nutrition monitoring and related research and we urge removal of this activity from Title I. Sec. 102(a)(8).

We request clarification on one aspect of H.R. 2436, that is, Section 102. (a)(9)(A) and (B) which deals with cost recovery and charges and fees for publications of the coordinated program. We support recovery of the cost of printing and distribution of such materials, but are unclear as to the meaning of "foster cost recovery techniques."

In summary, National Dairy Council recommends:

1) the present system of two separate national surveys should continue, including the collection of dietary intake data, but that a common methodological core be developed. The two surveys should be linked through compatible sampling and population descriptors and a mechanism should be developed to ensure timely data release and reporting.

2) the U.S. Department of Health and Human Services and the U.S. Department of Agriculture should continue to have joint responsibility for

implementation of the coordinated National Nutrition Monitoring and Related Research Program.

3) dietary guidance, an activity beyond the scope of nutrition monitoring and related research, should be removed from Title I. Sec. 102 (a)(8) of the legislation.

4) the provision concerning cost recovery techniques should be clarified.

We commend you for your continued interest and efforts to establish a coordinated National Nutrition Monitoring Program and we thank you for the opportunity to submit our comments.

Mr. BROWN. Thank you very much, Dr. Alcantara.

Mr. Morrison, do you have any questions?

Mr. MORRISON. Thank you, Mr. Chairman.

It is not so much a question as a comment on the similarity, including the third member of the panel who is not here. I read the United Egg Producers' proposal. My sense is that you are saying yes on proceeding to evaluate America's nutritional problems and opportunities but on the coordinated program, don't make HHS the lead agency.

Dr. ALCANTARA. I guess what we are saying is that we don't want to see either agency be designated as the lead agency, either HHS or USDA, because we feel that it should really be a joint responsibility between the two departments.

Ms. HOTING. That is our position as well.

Mr. MORRISON. OK. That is what I read from the Egg Producers as well.

Then, you all seem to dislike the concept of dietary guidance as far as coming from this coordinated effort.

Ms. HOTING. Exactly. We are in favor of dietary guidance and nutrition education, but believe that it goes beyond the scope of this particular bill which is devoted to nutrition monitoring.

Mr. MORRISON. And you would be inclined to leave the guidance concept up to the various interested parties as far as the interpretation of this data is concerned?

Ms. HOTING. That would be our position.

Mr. MORRISON. Thank you.

Dr. ALCANTARA. I guess from our point of view, dietary guidance is certainly important. There is no question about that, but we feel that it is beyond the scope of nutrition monitoring.

Mr. MORRISON. Thank you, Mr. Chairman.

Mr. BROWN. Mr. MacKay?

Mr. MACKAY. I would like to just make one point and then see if I could clarify one other point. You all are testifying in favor of the bill we filed last year. Where were you last year? That is the way we headed last year, and what everybody said last year is we don't want to create another bureaucracy.

Now, there is only one other way we can do it, and that is to put it in USDA and hear from all the constituency groups that support HHS. [Laughter.]

Dr. **Alcantara**. Maybe I should respond to that, because I was at the hearing last year. We did testify supporting the concept of a coordinated national nutrition monitoring program.

Mr. **MacKay**. What position did you take on last year's bill?

Dr. **Alcantara**. Our position last year was to support the concept. We did not officially endorse—

Mr. **MacKay**. Well, we bogged down somewhere between the concept and final passage.

Dr. **Alcantara**. Yes; we did not officially take a position on the bill itself but just the concept of a coordinated national nutrition monitoring program.

I guess one difference that we see this year between the two bills is that in this year's version of the legislation, one agency is now being designated as the lead agency and we feel that because the two surveys really have different objectives and purposes, we are just concerned that some of that might be lost if everything is put in one agency.

Ms. **Hoting**. Mr. MacKay, we did not testify last year.

Mr. **MacKay**. I don't mean to make light of the position you are taking, and I think you are expressing some concerns that we really ought not try to finesse. It seems to me that those concerns among particularly the commodity groups are that we might have a hidden agenda, that we might somehow now start doing some crusading through having HHS in control. We might then suddenly start having the Government taking a position on areas that are very sensitive to your groups, cholesterol and meat and cholesterol and dairy products.

I happen to be on a low cholesterol diet and find that the two groups that you are speaking for produce foods that I can't eat, and I happen to love both of them. You don't want other people now making recommendations until at least the state of the art is much more clear than it is. Is that fairly stated? I am not trying to put you in an embarrassing position.

Dr. **Alcantara**. No; I think you have raised some very good points, and I think they are very well taken. Perhaps if I could just make two points at this time with regard to dairy products as being part of, say, a cholesterol modified diet.

There is a wide variety of dairy products available with varying fat content. I think that there is always a place for dairy foods in any diet.

Mr. **MacKay**. Well, and I am saying that is very appropriate, and I don't disagree with where you are coming from. I have had discussions with other commodity representatives and I have tried to say, if instead of saying let's not support this bill, I would like to say to you how can we draft this in a way that makes it clear we are not after a hidden agenda.

Dr. **Alcantara**. In terms of the hidden agenda, I don't know that there is a hidden agenda. We probably would oppose just as much if USDA was designated the lead agency because we feel that there is expertise in both HHS and USDA in terms of nutrition monitoring. So, we really would like to see joint responsibility maintained between them.

Mr. MacKay. Now, this gets to the point I wanted to raise, and it has to do with Ms. Hoting's testimony. On the third page of your prepared statement, the second paragraph from the bottom says that "H.R. 2436 would transfer these activities to another agency."

I want to make sure there is no misunderstanding. We don't propose to transfer any activities that are now in USDA to any other agency. If the bill is not clear, then I think we ought to go to great pains to make that clear.

Going back to the National Agriculture Research and Extension Advisory Board, what we are proposing to do is to try to get coordination, to try to get the surveys done in the same year, to try to get a research coordination plan which outlines research subsets, study timeframes, and to try to get common data bases. Frankly, I can't for the life of me see why that wouldn't save money instead of costing more money.

Ms. Hoting. As we understand the bill, it would give HHS increased authority over USDA in these areas which are intricately linked to nutrition monitoring, that being food consumption surveys and the three items that are listed.

Since those are areas under which USDA now has authority, it seems that it would disrupt the continuity of those programs which are already in existence. It appears to me that it creates an entirely new structure, a management structure which is completely different from that existing now.

We believe that if there are, and there are undoubtedly problems with the current structure, those should be identified and resolved instead of creating an entire new bureaucratic layer, if you will.

Mr. MacKay. Well, now, without appearing belligerent, let me just tell you, the first time I got into this, and I don't have nearly the seniority Mr. Brown or Mr. Morrison have—I have only been at this same hearing 3 years now. The first year I was here, I asked who was the lead agency, and Dr. Bentley from your agency, I believe, was there. He said, gee, I don't know. It turns out it was USDA.

So, I am saying we really have tried all kinds of ways to make this work, and we really do have a joint management plan now that all of us supported. The problem is it is not working.

Now, how do we go about making it work? We are prohibited from physical violence, and we have tried everything else including bad language, brow beating, public humiliation.

Mr. Brown. That is a rhetorical question. [Laughter.]

Mr. MacKay. Thank you for getting Ms. Hoting and me out of that, Mr. Chairman. Thank you.

Mr. Brown. Do you have anything further?

Mr. MacKay. No, thank you, Mr. Chairman.

Mr. Brown. Since I have been through this hearing slightly more times than the other members, I think I will refrain from any further questions, but we do appreciate your testimony very much.

Dr. Alcantara. Thank you very much.

Ms. Hoting. Thank you.

Mr. BROWN. Our next and last panel will represent the various Federal agencies involved: Dr. James O. Mason, Acting Assistant Secretary for Health; Dr. Bentley, Assistant Secretary for Science and Education, with John Bode, Acting Assistant Secretary for Food and Consumer Services; and Major General Garrison Rapmund, Assistant Surgeon General for Research and Development.

We very much appreciate all of your presence here today. It is not a new experience for most of you. I am very fond of most of you. I wish I could hear something different from what I know I am going to hear.

Dr. Mason, do you want to start off?

STATEMENT OF DR. JAMES O. MASON, ACTING ASSISTANT SECRETARY FOR HEALTH, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Dr. MASON. Thank you, Mr. Chairman.

Mr. Chairman and members of the subcommittee, I appreciate this opportunity to review with you the status of the Department's nutrition monitoring and research activities and to comment on the National Nutrition Monitoring and Related Research Act of 1985, H.R. 2436.

Since I am acting, I am new and temporary. Accompanying me today are a number of individuals responsible for HHS nutrition-related activities. They are Dr. Michael McGinnis, Deputy Assistant Secretary for Health; Dr. James Marks, Assistant Director for Science, Center for Health Promotion and Education, Centers for Disease Control; Mr. Joseph Paul Heil, Associate Director for Regulatory Affairs, Food and Drug Administration; Dr. Manning Feinleib, Director, National Center for Health Statistics; and Dr. Thomas Malone, Deputy Director, National Institutes of Health.

Mr. BROWN. This is all part of their in-service training?

Mr. MASON. That is right.

The Department has maintained, as you know, a longstanding commitment to nutrition monitoring and has historically supported a variety of surveys and research programs in this area. Recently, these activities have been expanded and given more focus under the National Nutrition Monitoring System which we are jointly implementing with the Department of Agriculture.

Four agencies within the Department of Health and Human Services are involved in nutrition monitoring activities, and they are represented with me here today.

Last year, Dr. Brandt outlined for the subcommittee several of the specific programs that comprise our Department's portion of the NNMS, and I will provide you with an update on several of these programs. In focusing our attention on the components of NNMS, the means, we are often guilty of overlooking the ends. So, I have cited some examples of recent findings based on NNMS data in my testimony. I would like to just cite a few of those.

Hypertension which is thought to involve nutritional as well as genetic and behavioral factors affects 60 million Americans. Approximately 25 million adults are at increased risk of coronary artery disease because of high serum cholesterol levels. Approximately 32 million adults are overweight. Impaired iron status affects about 3 percent of persons aged 1 through 74, but it occurs most frequently in children 1 to 2 years old, males 11 to 14, and females ages 15 to 44 years.

As you would expect, some nutritional problems occur with greater frequency in the poor than they do in the nonpoor. For example, overweight, low serum vitamin C levels, impaired iron status, and short stature in young children occur more often in persons below the poverty level. However, for young children below the poverty level, our surveillance data from new enrollees in publicly supported nutrition and health programs show an encouraging decline in prevalence of short stature, overweight, and anemia during the 9-year period from 1976 to 1984.

Data on maternal weight gain show that mothers gaining less than 21 pounds are 2.9 times more likely to have low birthweight infants than mothers gaining at least 21 pounds during pregnancy. The iodine content of U.S. diets greatly exceed the recommended dietary allowances of the National Academy of Sciences and, as a result, steps have been taken to decrease iodine in the food supply. Nutrition labeling in the food supply now exceeds 50 percent of the dollar volume of foods regulated by the Food and Drug Administration.

A significant quantity of data has been generated through the National Nutrition Monitoring System, and it is important to note that these data are already being used for a number of Department program activities and policy issues.

A major use of the data described above is in the preparation of the first report to Congress on nutrition status by the Joint Nutrition Monitoring Evaluation Committee, a collaborative venture between HHS, USDA, and non-Federal researchers. The JNMEC intends to submit the report to Congress later this year.

Other examples are—and I won't take time to cite them, but they are indicated in my testimony. Other uses of the data from NNMS include identification of research needs for basic and clinical research programs through NIH and academic institutions. Results of food analyses, nutrition label surveys, and new methodologies for analyzing nutrient content of foods have been shared with representatives of the food industry to encourage cooperative efforts in solving food and nutrition monitoring problems.

Although we have already generated and used a large body of data from the NNMS, a number of research, monitoring, and surveillance activities directly or indirectly associated with this system are continuing. Several examples are given in my testimony. More detailed descriptions have been summarized for the record.

While we are pleased with these results and ongoing research and surveillance activities of the NNMS, we are continuing to support and make improvements on the means, the component surveys and data systems of the various agencies of the Public Health Service. I have summarized the significant activities of these agencies for the record. Also, recent developments in data collection activities of PHS agencies are cited in my testimony. I won't touch upon these individually, but they are available in the record.

Perhaps the most significant recent planning activity is our progress in developing NHANES III. As Dr. Brandt indicated last year, we had hoped to obtain the resources necessary to begin data collection in 1987. However, because of budget considerations, this survey was deferred for 1 year. Because of the high priority which we place on this survey, the increased funding necessary to field NHANES III in 1988 was included in the President's budget request for fiscal year 1986.

With this commitment to the survey, we are proceeding with plans for improvements in a number of areas, including more timely data and improved estimates on minorities. In designing NHANES III, we will be taking steps to facilitate the transfer of survey methodologies and procedures to State and local agencies that may wish to replicate some aspects of the survey in their area.

While individual agencies and departments have primary responsibility for individual pieces of the NNMS, it is important that these pieces be effectively coordinated. As part of our responsibilities, we place high priority on coordination among HHS agencies and with the USDA.

Coordination with the Department of Agriculture has included regular meetings between HHS and USDA staff to review activities and areas for coordination of the NHANES survey and USDA's Nationwide Food Consumption Survey. Although the surveys conducted in each department focus on different issues and interests, significant benefits are gained by assuring comparability in areas where analysis of both data bases would be beneficial.

Toward that end, the staffs of these surveys have continued to address operational issues regarding geographic and socioeconomic definitions, the use of common nutrient data banks, the use of similar coding procedures, and the use of similar questionnaires for portions of the surveys that are directly comparable. With USDA, we are developing methods for automating the dietary intake interview which is common to both surveys. We hope that this will ultimately result in the more timely collection of comparable data. The two departments are currently consulting on plans for data user conferences for the two surveys that will include a review of the specific comparability issues for data analysis.

As the subcommittee is aware, our department and USDA have been unable to adhere to a number of the specific milestones included in our initial Joint Nutrition Monitoring Implementation Plan submitted in 1981. This plan is now 5 years old and, consequently, is based on a number of assumptions that no longer hold. As a result, we are reviewing this plan and considering the steps necessary to update and extend the timetable for the NNMS.

In summary, we feel that our efforts under the NNMS are producing results that are useful to the scientific community and nutrition policymakers. We also feel that effective lines of communication have been established within our Department and with USDA. While there is room for improvement, we believe that significant progress has been made in improving the coordination of nutrition monitoring activities throughout the two departments.

I would like now to address H.R. 2436. As I have indicated, our Department is firmly committed to the objective of strengthening nutrition monitoring and research. However, it is our view that this bill would not contribute to reaching this objective and could, in fact, impede progress.

Our primary concerns relate to my earlier distinction between the ends of nutrition monitoring, improved scientific knowledge, and the means or mechanisms required to achieve these ends. Although it is the ends that should be of primary concern, the bill focuses almost exclusively on the means. The following areas summarize some of our objections to the bill:

The new administrative structures would add layers of bureaucracy causing an increase in time required for planning, review, and clearance of nutrition monitoring programs.

Additional overhead expenditure would be incurred, and funding would have to be diverted from the support of nutrition surveys and analyses.

Implementation of a separate line item for nutrition monitoring activities is problematic, since much of the data from the NNMS is obtained from surveys that address other health issues as well.

The specificity of items required in the comprehensive plan would preempt the ability of nutrition monitoring experts to make appropriate decisions based on scientific considerations and changes in the state of the art of survey management.

The real problems are to resolve technical issues among components of the NNMS and to pursue ways to better utilize information collected through our data systems. We believe that these problems can be better addressed through mechanisms in which we have already invested considerable effort.

My colleagues and I would be happy to respond to any question you may have.

[The prepared statement of Dr. Mason follows:]

DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service

Office of the Assistant Secretary
for Health
Washington DC 20201

STATEMENT

BY

JAMES O. MASON, M.D.

ACTING ASSISTANT SECRETARY FOR HEALTH

U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Before The

SUBCOMMITTEE ON SCIENCE, RESEARCH, AND TECHNOLOGY
COMMITTEE ON SCIENCE AND TECHNOLOGY

And The

THE SUBCOMMITTEE ON DEPARTMENT OPERATIONS, RESEARCH, AND
FOREIGN AGRICULTURE
And The
SUBCOMMITTEE ON DOMESTIC, MARKETING, CONSUMER RELATIONS,
AND NUTRITION
COMMITTEE ON AGRICULTURE

U.S. House of Representatives

JUNE 25, 1985

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I appreciate this opportunity to review with you the status of the Department's nutrition monitoring and research activities, and to comment on the National Nutrition Monitoring and Related Research Act of 1985, H.R. 2436. My testimony today will provide you with an update on nutrition monitoring programs of the Department, review some important findings based on nutrition monitoring data, and make some comments on H.R. 2436.

Accompanying me today are a number of individuals responsible for nutrition-related activities in the Department. They are Dr. Michael McGinnis, Deputy Assistant Secretary for Health (Disease Prevention and Health Promotion); Dr. James Marks, Assistant Director for Science, Center for Health Promotion and Education, Centers for Disease Control (CDC); Dr. John Vanderveen, Director, Division of Nutrition, Center for Food Safety and Applied Nutrition, Food and Drug Administration (FDA); Dr. Manning Feinleib, Director, National Center for Health Statistics (NCHS); and Dr. Thomas Malone, Deputy Director, National Institutes of Health (NIH).

NUTRITION MONITORING

The Department has maintained a longstanding commitment to nutrition monitoring, and has historically supported a variety of surveys and research programs in this area. Recently, these activities have been expanded and given more focus under the National Nutrition Monitoring System (NNMS), which we are jointly implementing with the Department of

Agriculture (USDA). Four agencies within the Department of Health and Human Services (DHHS) are involved in nutrition monitoring activities: the Centers for Disease Control, the Food and Drug Administration, the National Center for Health Statistics and the National Institutes of Health. The Department activities include surveys and research programs to provide data on 1) the dietary and nutritional status of the general population; 2) special nutritional issues relating to subpopulations, including pregnant women, infants, the aged, and minority groups; 3) nutrition-related health characteristics of the population; 4) public attitudes and awareness of nutrition-related problems; 5) the nutritional adequacy and safety of the national food supply, and 6) methodologies in support of nutrition monitoring needs.

Last year, Dr. Brandt outlined for the Subcommittee several of the specific programs that comprise our Department's portion of the NNMS, and I will provide you with an update on several of these programs shortly. However, in focusing our attention on the components of the NNMS — the "means" — we are often guilty of overlooking the "ends." So, I would first like to share with you some examples of recent findings based on NNMS data, i.e., the growing body of scientific knowledge that is being generated through the NNMS:

- Hypertension, which is thought to involve nutritional as well as genetic and behavioral factors, affects 60 million Americans.

- Approximately 25 million (or 22 percent of persons 25-74 years of age) are at increased risk of coronary artery disease because of high serum cholesterol levels.

- Approximately 32 million (28 percent of persons 25-74 years of age) are overweight.

- Impaired iron status affects about 3 percent of persons 1-74 years of age, but it occurs most frequently in children 1-2 years, males 11-14 years, and females ages 15-44 years.

- As you would expect, some nutritional problems occur with greater frequency in the poor than they do in the nonpoor. For example, overweight, low serum vitamin C levels, impaired iron status, and short stature in young children occur more often in persons below the poverty level.

- However, for young children below the poverty level, our surveillance data from new enrollees in publicly supported nutrition and health programs show an encouraging decline in prevalence of short stature, overweight, and anemia during the 9 year period from January 1976 to December 1984.

- Data on maternal weight gain show that mothers gaining less than 21 pounds are 2.9 times more likely to have low birthweight infants than mothers gaining at least 21 pounds during pregnancy.

- The percentage of mothers exclusively breastfeeding newborns increased significantly between 1969 and 1980.

- The iodine content of the U.S. diet greatly exceeded the Recommended Dietary Allowance of the National Academy of Sciences, and, as a result, steps have been taken to decrease iodine in the food supply.

- Forty percent of the dollar volume of foods regulated by FDA now bear quantitative sodium labeling.

- Nutrition labeling in the food supply now exceeds 50 percent of the dollar volume of foods regulated by FDA.

- Many adults report that they are concerned about and are seeking to modify their intakes of sodium, cholesterol and fat, and would like more labeling of these dietary components.

- About 40 percent of U.S. adults use vitamin/mineral supplements .

Use of the NNMS Data for Programs and Policy

Not only has a significant quantity of data been generated through the National Nutrition Monitoring System, but it is important to note that these data are already being used for a number of DHHS program activities and policy issues.

A major use of the data described above and other recent research is the first report to Congress on nutrition status by the Joint Nutrition Monitoring Evaluation Committee (JNMEC), which is a collaborative venture between HHS, USDA, and non-Federal reseachers. We believe that the comprehensive nature of this report, while requiring more time to accomplish than originally planned, will make a significant contribution to the field. The JNMEC intends to submit the report later this year.

Other examples of program areas using results from surveys included in the NNMS data can be given. NNMS data are playing a key role in the monitoring and implementation of the 1990 Health Objectives for the Nation, in monitoring nutrient content of the U.S. food supply and the usage of vitamin/mineral supplements by U.S. populations, and in evaluating food fortification policies. An indirect but very important benefit of the intensive analysis and review of the nutritional status assessment activities using the NNMS data base has been in the furthering of state-of-the-art knowledge on the use of physiological measurements in surveys for assessing the nutritional status of population groups. Lessons learned are already being incorporated into plans for the next National Health and Nutrition Examination Survey (NHANES). In addition, over the past two years, the PHS agencies have sponsored user conferences on HANES data or information which permit the government, industry and academia to share data and methodologies.

Other uses of the data from the NNMS include identification of research needs for basic and clinical research programs through NIH and academic institutions. Results of food analyses, nutrition labeling surveys, and new methodologies for analyzing nutrient content of foods have been shared with representatives of the food industry to encourage cooperative efforts in solving food and nutrition monitoring problems. Experience and data gained from the pediatric nutrition surveillance activities among enrollees in the WIC and other publicly supported activities are being shared with states and technical assistance is being provided to help them in the interpretation and application of these data. Finally, a number of scientific articles and government reports have resulted from the NNMS activities.

Although we have already generated and used a large body of data from the NNMS, a number of research, monitoring and surveillance activities associated, directly or indirectly, with this system are continuing. Several examples will be given here. More detailed descriptions have been summarized for the record. (See attachments).

- Using several data bases, including the 10 year followup of participants from the first National Health and Nutrition Examination Survey (NHANES), researchers throughout the Public Health Services continue to investigate the existence and nature of the association between diet, nutrients, and long-term health outcomes.

In addition, there is:

- Continuation of research on factors in the food supply that may adversely affect the nutritional value of foods.

- Expansion of analysis of nutritional data from HANES to assess vitamin A status from all three HANES surveys and to evaluate the nutritional status data from Hispanic HANES.

- Increased funding for research on nutritional status assessments and epidemiological research. For example, NIH nutritional research support increased from $30.9 million in FY 1983 to $35.9 million in FY 1984, and epidemiological nutrition research increased from $26.4 million in FY 1983 to $34 million in FY 1984.

- Continuation of development of methods for analyzing nutrient content of foods.

- Development and evaluation of methods to determine requirements of essential nutrients throughout the life cycle from fetal life through the aged.

- Support for seven Clinical Nutrition Research Units (CNRUs) by NIH and a review in process of applications for additional CNRUs.

Recent Developments in NNMS Data Systems

While we are pleased with these results and ongoing research and surveillance activities of the NNMS, we are continuing to support and make improvements on the "means"--the component surveys and data systems of the various agencies of the Public Health Service. I have summarized the significant activities of these agencies for the record (attached: description of surveys in NCHS, CDC, FDA, NIH). Recent developments in data collection activities of these agencies include:

- Completion of data collection for the Hispanic Health and Nutrition Examination Survey (HHANES).
- Planning for the 1986 National Health Interview Survey (NHIS), including a supplemental questionnaire on the use of vitamin and mineral supplements.
- Extension of the followup on respondents to the first NHANES survey, conducted in 1971-75, with particular attention to nutrition issues and the elderly.
- Increasing participation of and coordination with States for conducting nutrition surveillance activities for low income populations, including pregnant women, infants and children, and ethnic minorities.

- Continuation of the monitoring and tracking of nutrition labeling information and other food label information and analysis of foods for nutrient and contaminant contents.

- Planning for two studies on maternal infant feeding practices and consumer attitudes and practices related to dieting for weight loss.

- Implementation of an international cooperative effort to develop a more complete, accurate, and accessible food composition data base.

Perhaps the most significant recent planning activity is our progress in developing NHANES III, the next cycle of the National Health and Nutrition Examination Survey. As Dr. Brandt indicated last year, we had hoped to obtain the resources necessary to begin data collection in 1987; however, because of budgeting considerations, this survey was deferred for one year. Because of the high priority which we placed on this survey, the increased funding necessary to field NHANES III in 1988 was included in the President's budget request for FY 1988. With this new commitment to the survey, we are proceeding with plans for improvements in a number of areas, including more timely data and improved estimates on minorities. In designing NHANES III, we will be taking steps to facilitate the transfer of survey methodologies and procedures to State and local agencies that may wish to replicate some aspects of the survey in their area.

Coordination of Nutrition Monitoring Activities

While individual Agencies and Departments have primary responsibility for individual pieces of the NNMS, it is important that these pieces be effectively coordinated if the NNMS is to reach its full potential. As part of our responsibilities for the NNMS, we place high priority on coordination among HHS Agencies and with USDA. For example, within DHHS, NCHS, FDA and CDC have collaborated closely on analysis of data, identification of research needs, and designing of future surveys. CDC and NIH have supported the NNMS through development of methodologies and analytical activities.

Coordination with USDA has included regular meetings between DHHS and the USDA staff to review activities and areas for coordination of the NHANES survey and USDA's Nationwide Food Consumption Survey (NFCS), the two major survey components of the NNMS. Although the surveys conducted in each Department focus on different issues and interests, significant benefits are gained by assuring comparability in areas where analysis of both data bases would be beneficial. Toward that end, the staffs of these surveys have continued to address operational issues regarding geographic and socioeconomic definitions, the use of common nutrient data banks, the use of similar coding procedures and the use of similar questionnaires for portions of the surveys that are directly comparable. With USDA , we are developing methods for automating the dietary intake interview, which is common to both surveys. We hope that this will ultimately result in the more timely collection of data that are comparable between surveys. The two Departments are currently consulting on plans for data user conferences for the two surveys that will include a review of the specific comparability issues for data analysis.

As the Subcommittee is aware, our Department and USDA have been unable to adhere to a number of the specific milestones included in our initial Joint Nutrition Monitoring Implementation Plan, submitted in 1981. This plan is now five years old and, consequently, is based on a number of assumptions that no longer hold. As a result, we are reviewing this plan and considering the steps necessary to update and extend the timetable for the NNMS.

In summary, we feel that our efforts under the NNMS are producing results that are useful to the scientific community and nutrition policy-makers. We also feel that effective lines of communication have been established within our Department and with USDA. While there is clearly room for improvement, we believe that significant progress has been made in improving the coordination of nutrition monitoring activities throughout our Departments.

COMMENTS ON H.R. 2436

I would like now to address H.R. 2436. As I have indicated, our Department is firmly committed to the objective of strengthening nutrition monitoring and research; however, it is our view that this bill would not contribute to reaching this objective and could, in fact, impede progress.

Our primary concerns relate to my earlier distinction between the ends of nutrition monitoring--improved scientific knowledge--and the means or mechanisms required to achieve these ends. Although it is the ends that should be of primary concern, the bill focuses almost exclusively on the means. The following areas summarize some of our objections to the bill:

- The new administrative structures would add layers of bureaucracy causing an increase in time required for planning, review and clearance of nutrition monitoring programs. The time required to establish these structures would delay any substantive impact of the act well into the future.
- Additional overhead expenditures would be incurred, and funding would have to be diverted from the support of nutrition surveys and analyses, thus decreasing the scope and depth of the information they generate.
- Implementation of a separate line item for nutrition monitoring activities is problematic, since much of the data from the NNMS is obtained from surveys that address other health issues as well. It is inappropriate to split the funding for a single survey between two line items, or to overstate the cost of nutrition monitoring by including total survey costs under a nutrition line item.

- o The specificity of items required in the Comprehensive Plan would preempt the ability of nutrition monitoring experts to make appropriate decisions based on scientific considerations and changes in the state-of-the-art of survey management.

The real problems are to resolve technical issues among components of the NNMS and to pursue ways to better utilize information collected through our data systems. We believe that these problems can be better addressed through mechanisms in which we have already invested considerable effort. Consequently, the Department opposes the bill.

MY COLLEAGUES AND I WOULD BE HAPPY TO RESPOND TO ANY QUESTIONS YOU MAY HAVE.

ATTACHMENTS FOR THE RECORD

NATIONAL NUTRITION MONITORING SYSTEM ACTIVITIES

By The

U.S. DEPARTMENT OF HEALTH AND HUMAN RESOURCES

For The

SUBCOMMITTEE ON SCIENCE, RESEARCH, AND TECHNOLOGY
COMMITTEE ON HOUSE SCIENCE AND TECHNOLOGY

And The

THE SUBCOMMITTEE ON DEPARTMENT OPERATIONS, RESEARCH, AND
FOREIGN AGRICULTURE
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U. S. HOUSE OF REPRESENTATIVES

June 25, 1985

National Nutrition Monitoring Activities of the National Center for Health Statistics

The National Center for Health Statistics (NCHS) sponsors a number of surveys and data systems that provide information of use in nutrition monitoring.

National Health and Nutrition Examination Survey (NHANES). NHANES collects nutritional, physiological, and diagnostic data through specially designed standardized health examinations and interviews. Surveys were conducted in 1971-74 and 1976-80, with a third NHANES scheduled to begin data collection in 1988. Nutritional information obtained through NHANES includes biochemical measures of nutrient status as well as information obtained from a dietary interview. The value of nutritional information obtained through NHANES is greatly enhanced by the availability of extensive information on the health status of individuals in the same survey.

Hispanic Health and Nutrition Examination Survey (HHANES). The HHANES is a special, one-time study of the Hispanic population in three areas of the U.S.: Mexican-Americans residing in the Southwest; Cuban-Americans in the Miami, Florida, area; and Puerto Rican-Americans in the New York City area. Modeled after the NHANES survey, the HHANES involves the examination of approximately 12,000 persons. Data collection was completed in December 1984, and the first release of data will be made in November 1985 at the annual meeting of the American Public Health Association.

NHANES I Epidemiologic Followup Survey. The first National Health and Nutrition Examination Survey, called NHANES I, was conducted in the period 1971-1974. The NHANES I Epidemiologic Followup Survey tracks more than 14,000 persons examined as part of the NHANES I study. Reinterviewing of these individuals is used to examine the relationship between prior measurements and current health status. Particular attention is being paid to associations between nutrition and health outcomes, and an extensive dietary component has been included in followup interviews. An initial followup has been completed, and an additional followup of the elderly cohort is being conducted in 1985. Current research in the Public Health Service based on this data includes: examining the relationship between nutrition and various forms of cancer; contributing factors to hip fractures, including calcium intake and osteoporosis; replication of the cardiovascular disease risk model developed in the Framingham study; and further research into the relationship of calcium intake and the incidence of hypertension, stroke, and coronary heart disease. We are also exploring the possibility of using these data to replicate recent findings that fish consumption is a preventive risk factor for coronary heart disease.

National Vital Statistics System. NCHS administers activities to produce statistics on live births, deaths, fetal deaths, abortions, marriages, and divorces. These basic vital statistics are provided through State-operated registration systems, under uniform registration practices established through cooperative arrangements between NCHS and the States. Of particular interest for nutrition monitoring are information from birth records, which are the source of data on the birth weight of infants.

Vital Records Followback Surveys. A further use of the vital statistics system is to provide a sampling frame for followback surveys, which expand upon the information on vital records to produce a broad range of socioeconomic, environmental, and health-related information by "following back" to informants identified on a birth or death record. The National Natality Survey, last conducted in 1980 and planned for 1988, has provided valuable data on maternal and child nutrition, including data on weight gain during pregnancy, medical advice regarding maternal weight gain, and infant feeding practices. At the other end of the spectrum, the National Mortality Followback Survey will be conducted in 1986, and will obtain information on dietary habits of deceased individuals from relatives or other informants. Data from this survey may provide additional insight into associations between consumption of certain foods (e.g., red meat) and health consequences (e.g., heart disease).

National Nutrition Monitoring System Activities of the Centers for Disease Control

The Division of Nutrition, Center for Health Promotion and Education, Centers for Disease Control, continues to work with selected State and local health jurisdictions to develop and implement a nutritional status surveillance system throughout the United States. Using nutrition-related information from high-risk infants, children, and pregnant women who participate in selected service delivery programs, the system provides data on the prevalence of major nutrition-related indicators in the targeted groups. Among high-risk children these include the prevalence of overweight, underweight, linear growth retardation, anemia, low birth weight, and breastfeeding prevalence and duration. Among pregnant women the system provides information on anemia, abnormal weight changes, fetal survival, birthweight of the infant, and breastfeeding prevalence. Accomplishments of the surveillance segment of the national nutrition monitoring system are as follows:

- Technical assistance and consultation are being provided to States to enable them to participate in the Pediatric Nutrition Surveillance System. Thirty-four States are currently participating, an increase of one State over the previous year. The system encompasses about 2,400 service delivery clinics which submit data at an annual volume rate of approximately 1.4 million screening and follow-up visits.
- The pregnancy Nutrition Surveillance System is currently underway in 18 States, an increase of one State over the previous year. Records are submitted at an annual volume rate of approximately 30,000 pregnancies.
- An on-going series of workshops, aimed at improving measurement accuracy, data quality, and information usage are scheduled or have been carried out for State nutrition surveillance participants. Nine States were assisted in 1984, five will be assisted this year to aid them in the interpretation and practical application of their data. Specifically, technical assistance was provided as follows:
    - In *needs assessment*, particularly in the identification of nutrition-related health problems, high risk groups, and significant trends in prevalences of abnormal indices occurring in their jurisdictions.
    - In *patient care*, particularly in the identification of at-risk individuals for followup; for assurance of quality and continuity of nutritional care; and in the identification of training needs as regards nutrition and/or health intervention.
    - In *program planning*, in the establishment of nutrition services and programs; in the development of adequate, well-targeted nutrition education services; to make sure scarce resources are

maximized and used to impact on the most serious nutrition-related health problems and the most vulnerable high risk populations.

- Assistance has been provided to selected States to assist them in implementing a rapid, low-cost telephone survey methodology for defining prevalences of health-related behaviors associated with the Nation's leading causes of premature death and disability. Currently 24 States are participating in the CDC-Coordinated Behavioral Risk Factor Surveillance System which focuses on nutrition-related and other risk factors including overweight, sedentary life style, hypertension, smoking, and alcohol misuse among adults 18 years and older. Analysis of risk factor data has documented State and regional differences in the prevalence of obesity and other nutrition-related risk factors.
- Nutrition Surveillance, a publication which is printed annually and disseminated to individuals and groups within the United States and abroad, was prepared for 1982. Information contributed by States participating in the nutrition surveillance system is summarized, particularly selected indices of nutritional status. The annual summary for 1983 has been submitted for publication and is planned for distribution later this year.
- Surveillance data have been evaluated and special reports prepared which address nutritional status issues among high-risk, ethnic minority populations including blacks, Hispanics, Native Americans, and Southeast Asian refugees.

Principal Findings from the CDC-Coordinated Nutrition Surveillance System

The CDC Pediatric Nutrition Surveillance System collects data from the initial screening examinations of infants and children from relatively low-income families enrolled in the WIC Program and other publicly supported programs in 34 States. These data, consisting of simple growth measurements, such as height and weight, and indicators of anemia, such as hemoglobin or hematocrit, are used to describe and monitor the prevalence of nutrition-related abnormalities.

The results of initial screening examinations from approximately 263,000 children less than 2 years of age seen at local health clinics in 34 participating States in 1984 are presented below. The reference criteria used to define abnormalities in growth are the National Center for Health Statistics (NCHS) growth curves for American children. Short stature is defined as below the 5th percentile of height-for-age, overweight as above the 95th percentile of weight-for-height, and underweight as below the 5th percentile of weight-for-height. Using these criteria, a 5 percent prevalence is expected, based on the NCHS reference population. A review of the preliminary findings shows that:

- The prevalence of short stature, as measured by low height-for-age among screened children less than 2 years of age, was 7.6 percent and ranged from 7.0 percent among white infants and children to 10.3 percent among Asians (primarily Southeast Asian refugees).

- The prevalence of overweight, as measured by high weight-for-height, was 7.1 percent. Further examination shows that the prevalences ranged from 6.3 percent among white infants and children to 10.5 percent among Native Americans.

- The prevalence of low weight-for-height (an indicator of underweight) was 4.2 percent, a level less than expected using the NCHS reference criteria. The prevalence of underweight ranged from 2.8 percent among Native Americans to 5.3 percent among black infants and children.

Similar examinations of anemia prevalence, based on initial screening results from the same States, were carried out. The criteria used to evaluate anemia prevalence are the 5th percentile for age and sex for hemoglobin and hematocrit, based on data from the 1971 National Health and Nutrition Examination Survey (NHANES) conducted by NCHS. Infants under 6 months of age are not included in the evaluation of anemia trends since data from the NHANES are not adequate to estimate percentile cutoffs for this age group. A review of the preliminary data for 1984 shows that:

- The overall prevalence of low hemoglobin for children 6 months to 23 months of age was 3.8 percent and ranged from 0.8 percent among Native American infants and children to 5.9 percent among Asians.

- The overall prevalence of low hematocrit was 7.2 percent and ranged from 6.8 percent among whites to 7.9 percent among Hispanic infants and children 6-23 months of age.

Evaluation of trends, based on data from children under 2 years of age, show the following:

- The prevalence of both short stature and overweight have tended to decline over the 9 year period from January 1976 through December 1984. The overall prevalence of short stature declined from 10.6 percent to 7.6 percent, while the prevalence of overweight declined from 11.5 percent to 7.1 percent during the same period.

- The prevalence of low weight-for-height has not changed significantly over time and has not been greater than would be expected using the NCHS reference criteria.

- Evaluation of trends for anemia show an overall downward trend over the 9 year period from 9.3 percent to 7.2 percent for low hematocrit and from 5.8 percent to 3.8 percent for low hemoglobin. Trends in anemia were generally more variable than those in linear growth and overweight, but all ethnic/racial groups showed the same overall pattern.

National Nutrition Monitoring Activities of the Food and Drug Administration

The Center for Food Safety and Applied Nutrition of the Food and Drug Administration has responsibility for significant components of the NNMS. These efforts include:

Assessment of Sufficiency of the Food Supply. The FDA has primary responsibility for establishing food fortification policy. The development of rational fortification policy depends upon an accurate, state-of-the-art scientific base. When establishing fortification standards, FDA's policy requires that nutritional deficiency be demonstrated through physiological measurements such as low serum levels of a nutrient. Food consumption data are not sufficient for such purposes because it is not possible to correlate food consumption data with measures of health or nutritional status, except under extreme circumstances which are seldom, if ever, encountered in the U.S.

FDA has cooperated extensively with NCHS to facilitate the analysis and interpretation of NHANES data relating to nutritional status. The analysis and evaluation of data from the NHANES II relative to the iron, zinc, and folate nutritional status of the population has been completed and, under FDA contract, the Federation of American Societies for Experimental Biology (FASEB) has issued reports on these three nutrients. Results showed that less than 2 percent of U.S. males and less than 3 percent of U.S. females between the ages of 3 and 74 had low-serum zinc values. Estimates of the prevalence of impaired iron status ranged from 0.1 percent to 0.9 percent in 15 to 19 year old males up to 3.5 percent to 12.1 percent in 11 to 14 year old males. The usefulness of NHANES II data on serum and red cell folate was found to be limited for assessing folate status. The percent of persons with both low serum and red blood cell folate levels ranged from 2 to 6 percent.

The NHANES I and II dietary data have been evaluated to investigate a possible relationship between calcium intake and elevated blood pressure, and no consistent relationships were found. The evaluation of the vitamin A status of the population using the NHANES II data is in process. Also, under contract with FASEB, the evaluation of sources of data on the risk or prevalence of osteoporosis is underway. Recommendations relative to FDA input into NHANES III will also be made by FASEB.

Total Diet Study (TDS). This study monitors the levels of selected elements and various contaminants in representative diets of selected age-sex groups. The food list and diets of the TDA were revised in 1982 to reflect more recent food consumption habits and to include more age-sex groups. For the first time, the complete methodology for such a survey has been published. A report on the iodine content of the 1980 diet collections published in 1983 indicated that daily intakes of iodine by adults, infants and toddlers greatly exceeded the Recommended Dietary Allowances (RDA) of the National Academy of Sciences. Data on the yearly mineral levels of food commodity groups and total diets of infants, toddlers and adult males between 1974 and 1981/82 were published in 1984. An article on the levels of eleven essential minerals in 234 individual foods and in the total diets of eight age-sex groups for the first two years of the revised study (1982-84) has been submitted for publication.

Food Label and Package Survey (FLAPS). FLAPS is a biennial survey of a national probability sample of food products conducted for purposes of tracking nutrition information and other information that appears on food labels. The regular biennial FLAPS survey of mid-1984 showed further growth in quantitative sodium declarations on food labels relative to 1983. New reduced sodium product introductions by industry continued, but at a slightly lower rate than in the special interim survey conducted in mid-1983. The level of nutrition labeling in the food supply remained constant, and since 1982 has exceeded 50 percent of the dollar volume of foods regulated by FDA.

Tracking Public Knowledge and Awareness. The FDA conducts surveys on national probability samples to measure public attitudes, knowledge and practices about food and nutrition and to track changes which may occur over time. Recent studies done in cooperation with the National Heart, Lung, and Blood Institute of the National Institutes of Health have focused on knowledge and concern about sodium and fat/cholesterol. These studies indicate that many consumers are concerned about and are seeking to modify their intakes of these dietary components. More labeling of sodium, cholesterol and fat content will be helpful to them. Two studies on maternal infant feeding practices and consumer attitudes and practices related to dieting for weight loss are in the developmental stages.

Consumer Use of Dietary Supplements. A recent FDA survey indicates that about 40 percent of U.S. adults use vitamin/mineral supplements and that usage is more frequent among the better educated, higher income population. The current estimates of prevalence and levels of supplement consumption are not alarming but demonstrate the need for continuing monitoring of supplement use in this country.

Nutrition Surveillance and Assessment of Food. Surveillance of nutrients in foods, supplements and other products to determine nutrient content is an ongoing FDA activity that is part of the NNMS. A survey to determine if the vitamin A and riboflavin levels in various milk samples were meeting label claims was completed in 1984. It was undertaken because of reports which raised concerns about the levels of these two vitamins in market milk. The results showed that riboflavin content was generally near declaration levels for whole, 2% lowfat and skim milks. No values were less than label claims for vitamin A in whole milk. Low levels of vitamin A found in some 2% lowfat and skim milks may reflect the removal of fat (and, along with it, some fat soluble vitamin A) after the addition of vitamin A to the product. Results from this survey will be published and thus made available to the industry so that they can take appropriate action.

In conjunction with an ongoing survey program of infant formulas, FDA in 1985 has participated in a scientific conference sponsored by the Association of Official Analytical Chemists (AOAC) to provide information to everyone concerned with the production, regulation and analysis of infant formulas and to provide an opportunity for exchange of information between representatives from each of these areas.

In addition to the survey analysis activities, FDA works on developing new and improved methods for nutrient analysis. Through collaborative studies, between FDA and other laboratories, an AOAC method recently has been approved for the analysis of total dietary fiber, enabling food manufacturers to list dietary fiber on food labels in a more uniform manner. Efforts currently are underway inhouse to reestablish a reliable rat bioassay for vitamin D in order to test more accurately for the presence of this nutrient in foods.

The agency is working with the International Nutritional Anemia Consultative Group to develop, if possible, a nonbiological laboratory method to measure bioavailability of iron compounds used for fortification and supplementation. Different iron sources are being examined in both human clinical and animal studies starting in the fall of 1985, with a report expected by the fall of 1986.

FDA is continually assessing new processed foods and other factors relative to the food supply that may affect the nutritional status of the population. As examples, FDA currently is studying in animals the nutritional effects of trypsin inhibitors which occur naturally in some foods; is developing procedures to monitor the safe food use of carnitine; is studying the interactions between cadmium, a contaminant in oysters, with essential trace minerals; and is investigating the levels of vitamins A and E which may be toxic.

National Nutrition Monitoring and Related Research Activities of the National Institutes of Health

Since 1979 the National Institutes of Health (NIH) have supported a national program in clinical nutrition based in Clinical Nutrition Research Units (CNRUs). The establishment of seven CNRUs by NIH was a creative and imaginative response to a long-standing need to bring clinical nutrition into the mainstream of medical research and practice. Each CNRU has these seven components: research with human subjects and populations; laboratory investigations; research training; shared facilities and research services; educational programs for medical students, house staff, practicing physicians, and paramedical personnel; nutritional support services; and public information activities.

The Directors of the CNRUs meet annually with NIH staff to facilitate communication, review research findings and problems, and discuss administrative concerns and constraints. The fourth annual CNRU Directors' meeting was held in conjunction with the second biennial Conference for Federally-Supported Human Nutrition Research Units and Centers, sponsored by the Interagency Committee on Human Nutrition Research on January 14-15, 1985. The conference addressed two topics, both with significant implications for the collection and interpretation of data relevant to nutritional status monitoring: The use of Stable Isotopes in Human Nutrition Research, and Methods for Measuring Body Composition. About 100 non-federal and Federal scientists (including representatives from DHHS, USDA, AID, DOD, VA, NASA, and NSF) participated.

The NIH issued a new Request for Applications for "Core Grants for Clinical Nutrition Research Units" on August 1984. The Institutes participating in this announcement are the National Institute on Aging, National Cancer Institute, and National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases. This joint RFA resulted in the receipt of 16 applications. The applications have been reviewed for scientific merit and the Councils of the Institutes are currenlty considering the applications.

ASSESSMENT OF NUTRITIONAL STATUS AND NUTRITIONAL EPIDEMIOLOGY

The two components of the NIH Program in Biomedical and Behavioral Nutrition Research that provide the basis for the assessment of nutritional status and help in the interpretation of the data from the nutritional status monitoring system are: 1) Research on the Assessment of Nutritional Status and 2) Research in Nutritional Epidemiology. In FY 1984, both the number of projects and the NIH expenditures for these two components reached new highs.

1) Research on the Assessment of Nutritional Status

Expenditures in FY 1984 by NCI, NHLBI, NIDR, NIADDK, NIAID, NIGMS, NICHD, and DRR for 340 projects in nutritional status research were $35.9 million, up from $30.9 million for 302 projects in FY 1983. NIH research on nutritional status assessment includes investigations to develop and evaluate various kinds of methods useful in determining the requirements of essential nutrients throughout the life cycle from fetal life to infancy, childhood, adolescence, adulthood and the aged. Studies carried out in both normal and patient populations examine biochemical, anthropometric, maturational and functional indices of nutritional status; methods to measure nutrient concentrations in various tissues and plasma; and dietary recall methods. The NIH is the major agency that supports research for the development of methods used in nutrition surveys.

Reliable methods for the assessment of nutritional status are needed in order to: 1) determine whether or not impairment of health is the result of inadequate or inappropriate diet; 2) establish the specific nature of any nutritional problem underlying such health impairment; 3) provide knowledge on which to base dietary treatments for improving health; and 4) permit evaluation of the effectiveness of nutrition treatments or interventions that may be undertaken to improve health.

In order to permit more accurate comparisons of environmental data among different studies, intramural investigators of the NCI have begun to develop a core questionnaire covering "Health Habits and History" for use by all studies, and supplemented by more specific questionnaires. The core questionnaire includes questions under the categories of personal information; habits, usual eating and food habits; medical information; occupational information; family history; and other health factors which include physical and social activity. In June 1984, this questionnaire was reviewed by a group of experts who made a number of suggestions for revisions. The questionnaire is now ready for testing and validation. In addition to the core questionnaire, a core dietary questionnaire has been developed which is a major step toward ensuring comparability of dietary intake data in a variety of clinical and epidemiological studies.

Another important project related to making food composition and thus dietary intake data more complete, accurate, and accessible has involved the development of the International Network of Food Data Systems (INFOODS). This project has proceeded from an outline of a plan to an international network of individuals actively working toward these goals. Specifically, a detailed plan of action has been drawn up and approved by an international group of scientists representing the World Health Organization, the Food and Agriculture Organization, United Nations University, and the International Union of Nutrition Sciences, among others. Regional INFOODS committees have been set up in Europe, North America and Asia, and additional preliminary meetings have been held to discuss the organization of a Latin American INFOODS group. These groups will contribute to and implement the activities of INFOODS, as well as develop relevant regional activities with the assistance of INFOODS.

International committees have been set up to work in the areas of terminology and data quality. International meetings have been scheduled for next year on the topics of terminology, data quality, users and needs, and information systems. Efforts to update and extend the FAO bibliography of food composition data has already begun. While major funding for this project is coming from NCI, and to a lesser extent from NHLBI, the United Nations University has agreed to provide administrative support. A secretariat has been established at the Massachusetts Institute of Technology to coordinate all of the aforementioned activities related to INFOODS.

A number of the NIH Institutes are jointly funding a conference on Anthropometric Standardization to be held in October, 1985. The conference will address the standardization of the many kinds of anthropometric measurements such as skinfold measurements, head circumference, etc. It is expected that as a result of this conference, a manual for the assessment of nutritional status will be developed for use in both research and service programs.

2) Research in Nutritional Epidemiology

FY 1984 expenditures by NCI, NHLBI, NIDR, NIADDK, NIAID, NICHD, and NIA for 185 projects in epidemiological nutrition research were $34 million, up from $26.4 million for 176 projects in FY 1983. Since last July, the NIH Institutes have issued 1 Request for Applications and 13 Requests for Proposals to expand research on nutritional epidemiology.

Epidemiological research in nutrition examines the role of food habits and the socioeconomic factors that influence food selection in health and disease conditions. The five categories of studies in this area include 1) studies to evaluate methods and procedures used in epidemiological research in nutrition; 2) studies of nutrition's role on the physical and psychological development in defined populations; 3) nutrition-related epidemiological studies on maturation and reproductive functions; 4) surveys of nutrient intake and nutritional status assessment of special population groups; and 5) studies on the relationship of food intake and disease.

NIH is also conducting epidemiological studies related to the initial Follow-up of National Health and Nutrition Examination Survey (NHANES) I and the continual follow-up of NHANES I and NHANES II.

In 1983, the Initial Follow-up of the 14,407 persons aged 25-74 years at the time of the original NHANES I was conducted. The follow-up originated as a joint project between the National Center for Health Statistics (NCHS) and the National Institute on Aging, but since has received input and financial support from several other Institutes of the NIH.

Over 90 percent of the original NHANES I participants were traced, and of those, the response rate was over 90 percent, yielding a final interview rate of approximately 83 percent. The information collected on the participants included: 1) in-person interviews with the subjects or their proxies; 2) weight and blood pressure measurements; 3) hospital and nursing home records, and 4) death certificates. The collection of hospital patient records is still ongoing.

Many analyses are currently underway using the Initial Follow-up NHANES I data. A publications committee to coordinate the scientific output from this project has received over 100 abstracts identifying projects to be done using this data. Intramural scientists of NCI, NICHD, NHLBI, NIDR, NIA, NINCDS and NIADDK are looking at the NHANES dietary data and initial follow-up study data in order to test a number of hypotheses on the relationship of dietary practices to the incidence of diseases such as cancer, cardiovascular disease, obesity, osteoporosis, etc. as well as diet's effect on overall health and longevity. Some of the Institutes are also collaborating on various projects which have been proposed since FY 1983.

Mr. BROWN. Thank you very much, Dr. Mason.

I want to make sure that the attachments you have submitted with your testimony will also be included as a part of the record, and without objection, they will be.

Can we proceed with Dr. Bentley at this time?

STATEMENT OF DR. ORVILLE G. BENTLEY, ASSISTANT SECRETARY, SCIENCE AND EDUCATION, U.S. DEPARTMENT OF AGRICULTURE

Dr. BENTLEY. Thank you, Mr. Chairman.

Mr. Chairman and members of the subcommittees, I am pleased to be here this afternoon to talk of the role the USDA's science and education agencies have in the support of human nutrition monitoring. Before I begin my testimony, though, I would like to point out that nutrition monitoring activities are conducted under the leadership of the Assistant Secretary for Food and Consumer Services in the USDA and the Assistant Secretary for Health within the Department of Health and Human Services.

However, the matter of nutrition research and education is a major thrust of the science and education agencies of the USDA now and it has been for many years. For the purpose of this hearing, however, I will focus my remarks on the subject at hand, nutrition monitoring which provides us with the capability to assess the health and well-being of Americans. What we learn from these surveys is of critical importance to our research program and planning efforts.

The Agricultural Research Service contributes greatly to the human nutrition monitoring effort by conducting research in human nutrition centers that relate to monitoring.

In our Nutrient Composition Laboratory at Beltsville, MD, methodologies for the analysis of nutrients are improved and validated. Another important function of this lab with regard to monitoring is to generate nutrient composition data on widely consumed foods. Working with the Human Nutrition Information Service, foods and nutrients are selected for analysis. The information generated from this research is then used to build and meet the needs of the National Nutrient Data Bank. At the same time, this laboratory is providing critically needed data for the National Institutes of Health.

The Beltsville Human Nutrition Research Center has also developed several nutrition reference standards. These standards are used by research groups to improve the reliability of analytical measurements in food and biological materials.

Certainly, the nutrient composition data of foods is essential to the success of any human nutrition monitoring. But this information is incomplete when determining how many nutrients from those foods can be absorbed and available for metabolic use. Therefore, to develop a complete picture, knowledge of nutrient bioavailability plays a key role in appraising the nutritional adequacy of the diet.

ARS is conducting studies at its Human Nutrition Research Centers and Regional Research Centers on factors affecting the bioavailability of nutrients. This research includes the effects of dietary fiber on the availability of minerals and the effect of conditions associated with aging. Nutrient-nutrient and nutrient-drug interactions are also being studied with regard to nutrient bioavailability.

The ARS Human Nutrition Research Centers continue to seek more sensitive ways to detect marginal levels of nutritional status in humans in conjunction with their studies on nutritional requirements. In particular, the Western Human Nutrition Center at Letterman Army Institute of Research, San Francisco, has a mission to improve methods for assessing human nutritional status. In fact, all programs of the biochemistry research unit are directed toward the goal of assessment of nutritional status. We believe that projects currently underway will lead to improved indicators of human nutritional status.

Having explored how ARS relates to human nutrition monitoring through methodology, nutrient composition, bioavailability, and nutritional standards, I would like you to consider another important use of nutrition monitoring information.

Knowing the use and patterns of food consumption among the Nation's population enables the Department of Agriculture to link food production/processing to human nutrition and food needs. Survey findings determine where nutritional guidance is needed and what changes will be implemented by altering food production programs. Thus, by monitoring public consumption, we have access to data that can strengthen the link between production agriculture and nutrition. Improving the nutritional quality of the food supply helps prevent national nutritional problems, as we are all aware.

Monitoring information regarding food use and food consumption patterns is important to the agricultural food system. Producers benefit from information on food consumption patterns. The farmers and food processors need to know how consumer demand is changing, why it is changing, and how to adapt production to meet consumer demand. Monitoring helps answer these questions.

As you can see, the nutrition monitoring system is used for many purposes. The information collected on food consumption patterns, as well as food use, is widely needed by government and industry for planning and maintaining a food supply that not only provides nutritious foods but foods that people will select and consume.

Although I have covered our research activities that support nutrition monitoring, I would like to reiterate the relationship of the ARS human nutrition research to the monitoring activities of HNIS and DHHS.

The National Nutrient Data Bank maintained by HNIS is the primary source of data on the nutrient content of foods used by HNIS and DHHS for calculating the nutritional adequacy of diets by population subgroups. As I mentioned earlier, the nutrient composition laboratory at the Beltsville Human Nutrition Research Center maintains a very close partnership with HNIS. The methods for nutrient analysis and much of the food composition data are provided to HNIS by ARS.

Likewise, the ARS findings on availability and utilization of nutrients in foods and on nutritional requirements are of direct importance to the nutrition monitoring activities of both agencies.

The ARS research on developing improved and more sensitive methods for assessing nutritional status relates directly to the needs of the Food and Nutrition Service and DHHS. In fact, the Western Human Nutrition Research Center was given a mission to "conduct research on human nutrition requirements and on nutritional status, surveillance, intervention and monitoring" to assist in providing research support for evaluation and monitoring activities of FNS, HNIS, and DHHS.

The mission statement further states that the center "will focus on: (1) identification of factors, forces, and trends resulting in malnutrition; (2) development of reliable, efficient and inexpensive methods for defining nutritional status; (3) studies on human nutritional requirements; and (4) development of nutritional criteria and methodologies to assist in the design and evaluation of action programs."

The Cooperative State Research Service is also involved in certain aspects of nutritional monitoring. Presently, CSRS is financing in part and coordinating three regional research projects which involve nutrition monitoring. One project's purpose is to improve the accuracy of nutritional monitoring. Another deals with specific populations of adolescent females in eight Southern States, and a third monitoring project attempts to determine the extent of use of vitamin, mineral, and other food supplements in the Western Region.

I realize that one of the major purposes of this hearing is to discuss H.R. 2436, a bill to establish a National Nutrition Monitoring and Related Research Program. The provisions of this bill are most applicable to those activities of the Assistant Secretary for Food and Consumer Services, and the Department's position is given in the testimony by Mr. John Bode who is the Acting Assistant Secretary in that area.

I have, however, reviewed this legislation, and I concur fully with Mr. Bode's assessment that although we agree with the purposes of the bill, it creates a cumbersome management structure and confusion as to the roles of the individual Federal agencies. To implement this bill would cost the U.S. taxpayers millions of dollars and would not, in my opinion, improve our Nation's present nutrition monitoring system.

Mr. Chairman, again, I thank you for the opportunity to appear before you today. I am submitting for the record, if it may be included, material relating to the accomplishments of the Agricultural Research Service in human nutrition research. This material will be of interest to you and members of the committee and will bear out the fact that our present system is producing viable results for the benefit of all Americans.

We, of course, welcome any questions you may have.

[The prepared statement of Dr. Bentley follows:]

Testimony of

Orville G. Bentley

Assistant Secretary

Science and Education

U.S. Department of Agriculture

Before the

Science, Research and Technology Subcommittee of the

Committee on Science and Technology, and the

Department Operations, Research and Foreign Agriculture Subcommittee,

and the

Domestic Marketing, Consumer Relations, and Nutrition Subcommittee of the

Committee on Agriculture

U.S. House of Representatives

June 25, 1985

Chairman Walgren, Chairman Bedell, and Chairman Panetta, I welcome this opportunity to discuss with you the role that USDA's Science and Education agencies play in support of human nutrition monitoring. Before I begin my testimony, I would like to point out that nutrition monitoring activities are conducted under the jurisdiction of the Assistant Secretary for Food and Consumer Services within the Department of Agriculture, and the Assistant Secretary for Health within the Department of Health and Human Services.

As you know, nutrition research and education is a major thrust of Science and Education agencies. For the purpose of this hearing, however, I will focus my remarks on the subject at hand--nutrition monitoring, which provides us with the capability to assess the health and well-being of Americans. What we learn from these surveys is of critical importance to our research program.

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Agricultural Research Service
Accomplishments in Human Nutrition

1. Control high blood pressure by lowering dietary fat. Lowered dietary fat intake produced beneficial effects on moderately elevated blood pressure in otherwise healthy people. An estimated 25 million Americans suffer from moderately elevated blood pressure, which for many will progress to hypertensive levels with aging. Controlled studies at the Human Nutrition Research Center at Beltsville, Maryland, with male volunteers, show that a moderate reduction in fat intake lowered both systolic and diastolic blood pressure. In another controlled study of adults with blood pressure in the normal range at the Western Human Nutrition Research Center, blood pressure and blood cholesterol were lowered by reducing the dietary fat to 25 percent of the dietary calories and adjusting the ratio of polyunsaturated fats to saturated fats in the diet to 1.2 while keeping the salt intake constant. In addition, the results of two field studies, with high risk populations, confirmed the finding that fat level and type affects blood pressure. Control of moderately elevated blood pressure by diet can help prevent the development of hypertension and its sequela, cardiovascular disease and stroke, while saving millions in health care and lost productivity.

2. Adequate dietary chromium may help in prevention of diabetes and hypoglycemia. It has been shown that chromium supplementation led to an improvement in glucose tolerance of subjects with marginally elevated glucose following a glucose load. Chromium supplementation also was found to increase the 90 minute blood glucose values of hypoglycemia subjects suggesting a role of chromium in glucose metabolism. In a recent study, exercise-induced increases in glucose utilization in male joggers revealed a significant increase in chromium mobilization and subsequent urinary excretion with increased glucose utilization. In addition, approximately 90 percent of the 200 diet samples analyzed from normal individuals were below the National Research Council's minimum adequate intake for chromium of 50 micrograms per day. Supplementation of elderly subjects for 12 weeks with 200 micrograms of chromium per day led to improved glucose metabolism, suggesting that free-living elderly subjects also may not be consuming sufficient chromium in their diet. The role of chromium in glucose metabolism and its relationship to diabetes and hypogycemia suggest that marginal dietary chromium intakes may be a factor responsible for suboptimal health.

3. Diet control and exercise can reduce rate of muscle protein breakdown in the elderly. It has been shown that physical work capacity, muscle mass, and rates of protein turnover are reduced with age. The rate of albumin formation is controlled at a lower set point, and muscle makes a reduced contribution to whole body protein turnover in older as compared to young adults. Whole body leucine metabolism examined while subjects were in the post-absorptive state did not reveal major differences between young and older adult subjects. However, it was found that the rate of breakdown of muscle protein is under the control of diet and of hormones. Preliminary results of a three-month training program for elderly men and women indicate increases in functional capacity and reductions in percent body fat. These findings may have significance for the preservation of muscle mass during aging.

4. Zinc supplementation may be needed by pregnant women. Zinc supplementation (20 mg/day) of the diets of pregnant Hispanic women in a random, double-blind study, resulted in increased final serum zinc levels and higher infant body weights. The incidence of pregnancy-induced hypertension also was lower among the zinc supplemented women. No relationship was found between maternal hair and serum zinc concentrations. However, two biochemical blood indices (deltaamino levulinic acid dehydratase and ribonuclease) appear promising for assessing zinc status in humans. The calculated 24-hour dietary zinc intakes averaged less than 50 percent of the Recommended Dietary Allowance. The results of the study support the need for zinc supplementation in pregnant women with marginal zinc nutriture.

5. Suboptimal potassium intakes observed in free-living adults. A year long study was conducted with free-living adults in which diet samples were analyzed directly for sodium and potassium instead of calculated from food consumption estimates. The results revealed less than optimal intakes of potassium in relation to sodium as recommended by the National Academy of Sciences. When potassium intake increased, blood pressure decreased in males. The results show that most previous studies that based their estimates of sodium and potassium requirements on urinary excretion have under-estimated the actual intakes of these minerals. These results may have wide ranging health risk implications since the number one cause of death in the U.S. involves deterioration or impairment of the cardiovascular system.

6. Dietary fiber intake lowers blood cholesterol. High levels of serum cholesterol are generally considered to increase the risk of developing heart disease. The intake of diets that lower blood cholesterol without producing any undesirable side effects is therefore desirable. A human study showed that a number of purified dietary fibers, when added to the normal American diet, lowered blood cholesterol in men after 4 weeks. The effective fibers all had the property of forming gels in solution. No undesirable effects of these fibers were observed, such as loss of trace elements from the body. The results indicate that the inclusion of gelling fibers in the diet may be a safe means of lowering blood cholesterol levels.

7. Modification of the present United States' diet. The typical United States' diet is high in calories, fat, sugar, and salt. These nutrients have been associated as risk factors for heart disease and diabetes. Dietary modifications found beneficial during previous human studies were incorporated into a 7-day cycle menu. The modifications included small reductions of total fat, sugar, and salt and increases in fiber and polyunsaturated fat. Consumption of the modified diet for 13 weeks reduced blood lipids, improved glucose tolerance, and lowered blood pressure. End-of-study subject evaluations showed 66 percent felt better and 44 percent rated the diets of higher quality than their prior self-selected diets. Three-fourths of the subjects indicated a desire to change their diets to conform more closely to the modified diet.

8. Biotin status influences essential fatty acid requirements. Lack of knowledge of the bioavailability of nutrients, such as biotin and its interaction with essential fatty acids (EFA) impedes the translation of requirements into dietary recommendations. A rat model was developed by producing methemoglobinemia, impaired oxygen-carrying capacity of blood to study the role of biotin as an antioxidant to protect against breakdown of EFA in tissues. Results indicated that biotin, in addition to its role as an antioxidant, acts to regulate the metabolism of EFA by increasing the amount of arachidonic acid. Rats fed diets with saturated fat needed more biotin than rats fed diets with unsaturated fat. These findings clearly indicate that biotin is an important nutrient in determining lipid requirements of humans for optimal health.

9. Development of a rapid method for measurement of moisture, protein and fat in meat. Conventional methods for measuring moisture, protein and fat in meat require laborious chemical techniques that are costly and slow. The application of new analytical instrumentation, near-infrared spectrometry (NIR) has greatly improved the cost effectiveness as well as reliability and precision of results. This new method has promise for use by regulatory agencies, as well as private sector meat producers.

10. Resistance to infection improved by yogurt. Yogurt-fed rats were more resistant to infection that rats fed milk. Since yogurt is a fermented milk product, the organism responsible for the yogurt fermentation, Streptococcus thermophilus was investigated to determine its role in resistance to infection and growth stimulation. Although the precise factor has not yet been identified, it has been determined that the growth stimulation and infection resistance factor is produced by Streptococcus thermophilus and does not depend upon fermentation of milk. The implications of this research are that there may be health benefits to people who consume yogurt produced by a fermentation which includes use of Streptococcus thermophilus.

11. Sucrose and fructose magnify copper deficiency. Studies using rats have previously shown that the feeding of sugars such as sucrose and fructose as compared to starch worsens the signs of copper deficiency. Diets consumed by people living in industrialized societies such as ours contain relatively high levels of sucrose and fructose and only marginal levels of copper. A human study was therefore conducted to determine whether changing the type of carbohydrate fed between cornstarch and fructose in a diet typical of that consumed in this country could affect signs of copper status. A copper-containing enzyme, superoxide dismutase, was significantly lower after the subjects consumed the fructose than when they consumed the starch. Repletion of the subjects with copper significantly increased the enzyme level in subjects previously fed fructose but not starch. These findings indicate that copper status may be adversely affected by fructose-containing sugars (e.g., sucrose). This finding may have special relevance to human health since low copper intake has been associated with an increased risk of heart disease.

12. **Effects of nutritional factors on bone metabolism.** The effects of nutritional factors on bone metabolism as animals age, with occurring biological events, are influential in the onset and severity of bone disease and structural disorders. Problems such as the onset of osteoporosis in women and the leg weakness observed in pigs reaching maturity, may be affected by dietary factors which seem to alter the collagenous matrix of bone. Bone samples obtained from elderly women with osteoporosis revealed a relation between collagen crosslinking and the extent of bone demineralization. An increased maturation of the collagen crosslinks in bone from animals fed high levels of protein also has been demonstrated, which may account for the reduced bone minerals observed in animals. The consumption of high protein diets affects the excretion of minerals and may result in an imbalance affecting an increased resorption of bone. Society would be benefited by lowered medical costs if the incidence of fractures were decreased in our elderly of the future by nutrient balancing in our young population of today.

13. **Interrelationship found between boron and cholecalciferol (vitamin D_3).** Using the chick as an experimental animal, an interrelationship has been found between the mineral boron and vitamin D_3 (cholecalciferol). Boron markedly elevated the rate of growth and lowered the plasma alkaline phosphatase activity, heart weight/body weight ratio and incidence of rachitic long bones in chicks fed vitamin D_3-deficient diets. These findings suggest that boron may modulate the function of vitamin D_3 or is necessary for the efficient conversion of vitamin D_3 to its active form in the body. This could be important in long-term parenteral feeding where boron intakes may be low.

14. **Fat absorption in premature infants measured by non-radioactive ^{13}C labeled triolein.** ^{13}C labeled triolein, a stable isotopically labeled form of fat can trace fat absorption and oxidation by premature infants and provide information on maturation of the small intestine during the first weeks after birth. This technique is being used to differentiate the roles of human milk and infant formulas in the emulsification, hydrolysis, and absorption of long chain triglycerides. Initial studies show premature infants fed their own mother's milk digest, aabsorb, and oxidize triolein to a greater extent than infants fed formula.

15. **Brans interact with minerals in human diets.** Measurements on brans prior to ingestion and after passage through the human GI tract reveal significant changes in mineral binding. Wheat bran remnants retrieved from fecal matter contain more Ca than did the starting material and thus are able to act as a mineral sink to remove Ca from the GI tract. This observation is consistent with clinical observations that indicate excessive amounts of wheat bran are able to cause a negative calcium balance. Drymilled corn bran also has been shown to bind in vivo significantly more Ca, Cu, Fe, and Zn than it contained prior to ingestion.

16. Nutrient analyses of foods. Scientists in the USDA Nutrient Composition Laboratory published extensively on the development of new and improved methods for analysis of nutrients in foods. These methods and instruments should profoundly alter the techniques used for nutrient analyses of food in a manner to make the assays more accurate and precise and at a lower cost. Data were obtained and published on the following:

- Nutrient content, including individual and total sugar content, inorganic nutrient content and moisture content, of eleven fruit juices from a nationwide sampling. This is the only known comprehensive nationwide sampling of fruit juices.

- Lipid content of over 50 fast food items in the Washington, D.C., area from three chains. This research listing is the most extensive of the lipid content of fast foods ever obtained for publication.

- Fiber content of 81 ready-to-eat breakfast cereals. The neutral detergent fiber content ranged from 0 to 31 percent of the dry weight of these cereals.

- Sugar content of 14 granola cereals from seven different manufacturers. The sugar content ranged from 22-23 percent of the dry weight.

- Vitamin B-6 content of 24 ready-to-eat breakfast cereals. The vitamin B-6 ranged from 0.2 to 3.05 mg/oz. In 1/3 of the cereal brands tested, the pyridoxine content varied appreciably among lots.

17. Shifts observed in family financial management practices. Research on household saving behavior of several types of families indicates that income alone does not determine families' ability to improve their financial position. For example, in spite of higher income, two-earner families save significantly less of their income than single-earner families. A study of household wealth patterns shows that families are increasing their debt loads, shifting investments to uninsured and illiquid form, and holding assets in special purpose, limited-access accounts, thereby increasing their exposure to risk. Research results contribute to the revision of research-based guidance materials in family resource management--a priority area for home economics extension programs directed at improving long-term family economic stability and security.

18. Effects of self-selected diets on mineral balances (calcium, phosphorus, magnesium) of adults. The effect of three major dietary minerals (calcium, phosphorus, magnesium) consumed by adults, 21 to 52 years of age, under natural conditions of customary diets was determined by the balances of these nutrients. Mineral balances were also related to level of dietary protein consumption. Calcium and magnesium intakes, especially for women, are generally below the RDA, while phosphorus and protein intakes higher than recommended. Fifty percent of the women and the men 35 years of age and older, but only 20 percent of the young men, were in marked negative calcium balance. Phosphorus balances of 60 percent of the adults were also grossly negative. Magnesium balances were only slightly negative for 60 percent of the adults. Dietary protein level adversely affected calcium, phosphorus and magnesium balances of only the women 35 years of age and

over. This depressive effect of the level of dietary protein on calcium balance of the women approaching menopause will utimately affect their bone metabolism. Hormonal changes, particularly estrogen, at and after menopause will result in additional stress on calcium and bone metabolism with bone fractures occurring in those women whose bone densities are below a critical level prior to menopause.

19. Protein and energy intakes of exclusively breast-fed infants. Human milk intake and growth performance of exclusively breast-fed infants from middle- and upper-socioeconomic groups have been documented during the first four months of life. The absolute amount of milk ingested plateaued over the study period at 733 grams/day. The amounts of energy and protein available from this amount of milk suggests a more efficient utilization of energy and nitrogen for growth by breast-fed infants or differences between formula- and breast-fed infants in the composition of tissues gained during growth. In complementary metabolic studies, mineral utilization appeared to differ between formula- and human milk-fed infants, and significant quantities of lysozyme, lactoferrin, and secretory IgA, that occur in human milk, were found to survive passage through the gastrointestinal tract. The studies of immune components suggest that human milk has the ability to modulate immune responses throughout the upper and low gastrointestinal system.

20. Regulation of human milk sodium. The concentration of sodium is one of the most variable characteristics of human milk. This is of interest for two reasons: (1) The concentration of sodium in some milks is very low. It is not known if these low values represent normal physiology, abnormalities, or responses to diet. Low Na concentration could represent a health risk. (2) High sodium intakes in early life may increase the risk of hypertension in individuals genetically predisposed to this disease. Results of the studies which have demonstrated that the concentration of sodium in human milk is not controlled by acute dietary changes also have increased our understanding of the hormonal regulation of this important nutrient.

21. Dietary calcium related to bone mineral loss in women. In a study on the effect of dietary minerals on spine alveolar and radius bone density during aging among 100 healthy post-menopausal women, it was found that the quartile of subjects with the lowest dietary calcium intake (less than 1/2 the RDA) had a significantly greater loss of bone mineral from the spine (7% annualized) than did the group as a whole (1% annualized). In a separate set of studies it was found that calcium supplements when taken with a test meal significantly impaired iron absorption but had no effect on zinc absorption.

22. Vitamin E stimulates immune response of aged mice. Experiments in animal models have demonstrated that relatively high doses of dietary vitamin E stimulates the immune responsiveness of aged mice to levels that are comparable to those of young mice. This immuno-stimulatory effect of vitamin E appears to be mediated via decreases in prostaglandin E-2. Furthermore, animals receiving dietary vitamin E supplementation presented with a markedly lower incidence of kidney amyloidosis, a degenerative pathological condition associated with aging. In addition, the dietary requirements for vitamin E necessary to mantain steady state levels in the brain were found to increase with age beyond amounts currently recognized as adequate.

23. **Possible gene marker for coronary artery disease.** Apolipoprotein A-I (APO A-I) is the major protein component of high-density lipoproteins (HDL). Recent work has identified a specific APO A-I gene abnormality in approximately 60% of subjects with genetic HDL deficiency, 33% of patients with premature coronary artery disease, and 4% of normal subjects. This new gene marker may prove to be of great importance in identifying a genetic predisposition to coronary artery disease and lead to preventitive early recommendations for dietary practices/interventions in high-risk individuals. In addition, new information is being developed to precisely characterize how the fat soluble vitamins (A, D, E, and K) are carried in plasma lipoproteins in both the fasting and post-prandial states. Furthermore, a new highly sensitive methodology for analyzing essential fatty acid requirements and deficiencies has been developed.

24. **Age-dependent calcium growth response.** Studies with well-defined cell culture systems have revealed an effect of calcium concentration on density-dependent growth inhibition for fibroblasts (connective tissue cells) that is strikingly age-dependent: doubling the calcium concentration in the nutrient medium increases cell yield approximately 350% for newborns, 150% for young adults and 20% for old adults. This suggests that elevated calcium may enhance cell responsiveness to growth stimulatory molecules and may have implications for such clinical problems as poor wound healing in the elderly. Additional experiments have demonstrated that both keratinocytes (skin barrier cells) and fibroblasts from newborn skin respond better to growth stimulants than do these cells from adult donors. This research approach has allowed for careful study of the impact of aging and nutrition at the cellular level.

25. **Vitamin C may protect age-related eye damage.** Research studies on the role of nutrition in the etiology of eye lens cataracts has identified age-related damage to eye lens crystallins, specialized proteins in the eye. The protease enzymes which protect crystallin proteins from degradation require magnesium, manganese and/or zinc and become less effective during aging. Enhancing the levels of vitamin C, a dietary antioxidant, has been found to protect against the photo-oxidative damage which accumulates with age. This research approach may lead to dietary recommendations which serve to extend the useful life of the lens and enhance the quality of life of our elderly.

26. **Folate absorption reduced in elderly with atropic gastritis.** Atrophic gastritis is a common asymptomatic condition of the elderly. Atrophic gastritis was found to result in folate malabsorption in the elderly but not in folate deficiency due to increased bacterial synthesis of folate in the small intestine. The intermittent use of acid-lowering drugs or antacids which elderly people frequently take with meals also results in a lowered absorption of dietary folate but is not compensated for by bacterial folate synthesis. Furthermore, in elderly people with atrophic gastritis the use of antibiotics could precipitate a folate deficient state within a relatively short period due to the profound folate malabsorption seen in these individuals.

27. Guar gum improves glucose tolerance. A 6-month long study determined the effect of dietary fiber and guar gum-containing food bars on the metabolism of humans who exhibited adult-onset diabetes. It was found that consumption of the guar bars improved oral glucose tolerance, lowered glycosylated hemoglobin, and increased glucose consumption during the euglycemic clamp (suggesting an increased sensitivity to insulin). Mineral retention was not adversely affected by consumption of the guar bars for the 6-month period. These tasty guar bars were especially developed for this study and are not available commercially. These results thus suggest a potential product for food processors.

28. Plasma enkephalin levels lowered with copper depletion. It is important to develop reliable indicators of metabolic effects of copper deficiency in humans. In severe copper deficiency plasma ceruloplasmin activity and erythrocyte superoxide dismutase activity is decreased appreciably, but neither of these measurements are suitable to assess mild copper deficiency. In humans fed low copper diets for 11 weeks, there were dramatic decreases in both plasma leucine- and methionine-enkephalin levels and an increase in β-endorphin level. These three measures returned to normal when the diet was repleted with copper.

29. Platelet tochoperol level reflects dietary level. Since serum tocopherol levels are no longer considered an accurate index of vitamin E (tocopherol) nutritional status, we developed an alternative index method on a rat animal model i.e. platelet tocopherol level. We have validated this method in human subjects by showing that there is a sensitive dose response relationship between tocopherol levels of human platelets and dietary changes in vitamin E.

30. Selenium deficiency promotes clotting. The importance of dietary interactions between essential fatty acid and selenium nutriture has been shown in studies using an animal model. Feeding selenium deficient diets results in increased formation of the blood clot-promoting prostaglandin called thromboxane A_2 (TXA_2) from the essential fatty acid arachidonic acid.

31. Vitamin B-6 forms seperated. A new analytic resin was identified and chromatographic procedures developed for the seperation and quantification of all vitamers of vitamin B-6.

32. New analysis technique. A new near-infrared reflectance spectroscopy method was used to determine fiber, starch and total carbohydrate in snack foods and to determine total sugar in breakfast foods. The new technique is rapid and easily can be used in automated procedures for product quality control.

33. Carotenoid analysis methodology. High pressure liquid chromatographic procedures were developed for separating and quantifying carotenoids in yellow/orange (Y/O) and green vegetables. Two internal standards were developed for routine chromatographic use. The primary carotenoids identified in Y/O vegetables (carrots, acorn squash, sweet potatoes) were alltrans-β-carotene and 13-cis-β-carotene in all vegetables and alpha-carotene in carrots. The primary carotenoids identified in green vegetables (spinach, broccoli, cabbage, brussel sprouts and kale) consisted of three to five xanthophylls, two of which were lutein and its 5, 8 epoxide, all-trans-β-carotene and 13-cis-β-carotene. Green vegetables also contained high levels of "a" and "b" chlorophylls and several of their metabolites.

34. Development of new or improved analytical procedures for vitamin measurement and assessment. Technological advances have made it possible to develop more efficient, selective, and fast methods for trace quantities measurement of selected vitamins. Utilizing high performance liquid chromatography (HPLC) we have developed analytical method for the quantitation of plasma ascorbic acid, isoascorbic acid, and uric acid; methodology for the measurement of ascorbic acid, isoascorbic acid, and uric acid in cured meats and foods; determination of N^1-methylinicotinamide in urine; and simultaneous measurement of vitamin A, vitamin E and vitamin E related compounds in plasma of humans and plasma and tissues of animals.

35. Simpler procedure for isolation of leukocytes. Developed a method for the differential separation and isolation of specific blood cells. Leukocytes from human blood can be isolated by sequential centifugation through Percoll gradients. Leukocytes can be further separated into pure lymphocytes and neutrophils. Coupled with HPLC, we have been able to develop sensitive and specific methods for the measurement of leukocyte ascorbic acid levels. Isolated cells are being used in our cellular nutrition research for the development of biochemical functional tests.

36. Use of selenium-containing proteins as indices of selenium nutritional status. A new and highly sensitive assay for selenium based on its catalytic effect on the reduction of dyes was developed. Several biological forms of selenium are active in the assay system and the sensitivity for selenite is comparable to the best methods presently available for selenium analysis. Furthermore, this new assay system has a dynamic range and linearity as good or better than present selenium assay methods. Current work is on extending this assay to selenocysteine-containing proteins and to samples in a biological matrix.

37. Interactions between vitamin C and selenium. Both animal and human studies have been completed during the last year regarding interactions between vitamin C and selenium. In a guinea pig experiment we have found that ascorbic acid intake has no effect on blood or tissue levels of selenium but does influence the specific activity of the selenoenzyme, glutathione peroxidase. Present work has involved in the testing of the effect of ascorbic acid on purified selenoenzyme in vitro. This work suggests that at low concentration ascorbic acid stimulates activity but high concentration of ascorbic acid inhibits activity. Our plans are to define mechanisms responsible for ascorbic acid's influence on the selenoenzyme.

38. Ingestion of vitamin C supplements found not to interfere with B vitamin status of human subjects. Previous work has suggested that supplemental intake of vitamin C may adverseley affect body nutriture of vitamins B-6 and B-12 by causing excess urinary excretion of Vitamin B-6 and reacting so as to destroy vitamin B-12. In a controlled study at the Western Human Nutrition Research Center eleven young men were fed a natural food diet containing low, normal, and high amounts of vitamin C over a 14 week period. Blood tests for vitamins B-6 and B-12 were done and the urinary excretion of vitamin B-6 was measured. There was no change in these parameters thus showing that intakes of vitamin C up to ten times the RDA do not harm the body's status of vitamins B-6 and B-12.

39. Blood pressure study reveals salt excretion linked to polyunsaturated fat intake. Subjects on a high polyunsaturated fat diet excrete more sodium and potassium in their urine than those who eat a low polyunsaturated fat diet. In addition, the high polyunsaturated diet may also act as a "mild diuretic" since urinary volume excretion was increased in the subjects on the higher polyunsaturated fat diet. These findings give us a nutrition-oriented approach to lowering high blood pressure. The results came from a three-month study of eight healthy resident volunteers housed at the WHNRC. The subjects were fed carefully controlled diets and 24-hour urine collections were made for 93 consecutive days.

40. High levels of phytate in the diet may decrease zinc absorption and result in negative zinc balance. Addition of 2.3 mg of sodium phytate to formula diets of young men resulted in a marked decrease in zinc absorption. Absorption was determined using the stable isotope, ^{67}Zn. The young men were confined to a metabolic unit for the study. High levels of sodium phytate and -cellulose were added to formula diets. Each diet was fed for 15 days. The addition of -cellulose neither impaired zinc absorption nor resulted in negative zinc balance. The results suggest that diets containing large amounts of phytate may have an adverse effect on zinc status.

41. Folacin requirement and metabolism in the adult female. Limited information exists as to the folacin requirements for humans. Existing information has been derived from the use of synthetic folacin, pteroylmonoglutamic acid (PGA), rather than with naturally occurring forms as consumed in the diet. A study was conducted with 12 healthy non-pregnant female volunteers in the Western Human Nutrition Research Center's Human Nutrition Suite to determine the folacin requirement for women. The results indicate the minimum folacin requirement of adult women is about 300 mg/day when obtained from dietary sources. The bioavailability of food folacin appears to be less than 30% when compared with PGA.

G. F. Combs
6/13/85

Mr. BROWN. Thank you very much, Dr. Bentley. We would like to have the material that you referred to, and it will be included in the record.

Can we now have Mr. Bode?

STATEMENT OF JOHN W. BODE, ACTING ASSISTANT SECRETARY FOR FOOD AND CONSUMER SERVICES, U.S. DEPARTMENT OF AGRICULTURE

Mr. BODE. Good evening, Mr. Chairman. I am John Bode, Acting Assistant Secretary of Agriculture for Food and Consumer Services. I have taken the liberty, Mr. Chairman, of asking Dr. Suzanne Harris, the Administrator of Human Nutrition Information Service at USDA, to join me at the table in anticipation of some of the questions that we trust you will ask. It is a reflection of our eagerness to respond fully.

I would like to make, in summarizing my testimony, two major points drawn from my full statement submitted for the record. One, USDA is proud of its part in the national nutrition monitoring system since its implementation began in 1981, and in the progress in coordinating our monitoring activities with those of the Department of Health and Human Services.

The second is we support the objectives of H.R. 2436 but, like the Department of Health and Human Services, believe that additional layers of bureaucracy specified would impede our progress in meeting those objectives.

Since we testified before you last year, we have taken several important steps, and I would like to discuss those briefly.

We initiated a continuing survey of food intakes by individuals in the spring of 1985. The first data from this survey will be reported by fall. It will assess diets from a national sample and a low-income sample of women and young children, groups that our past surveys have shown to have diets that fall short of recommended levels of some nutrients.

For analysis of continuing survey data we have in use a new computerized food coding system and a new nutrient data tape that increases from 14 to 28 the number of nutrients for which we can assess the content in diets.

To coordinate our surveys with the NHANES, formal quarterly meetings are held, and we hope to step up the frequency of these meetings as we plan for surveys in 1987 and beyond. I would like to add to that that at the Assistant Secretary level, regular meetings, generally on a monthly basis, have been held between the Assistant Secretary for Food and Consumer Services and the Assistant Secretary for Health.

Our management mechanism is uncomplicated and relatively efficient. USDA's Assistant Secretary for Food and Consumer Services and DHHS's Assistant Secretary for Health cochair management of NNMS with general leadership in the food and nutrient consumption areas in USDA and leadership in the health areas in DHHS. The cochairs have asked that monitoring staffs extend to 1992 the joint implementation plan for the national nutrition monitoring system. The proposed food and nutrient consumption component of this plan builds on our monitoring research and experiences since 1981 and attempts to implement recommendations of a National Academy of Sciences report of dietary data users' needs published last year.

The Department has shown its support for the monitoring activities by increasing HNIS funding and staff with the continuing survey in fiscal year 1985 and for the comprehensive dicennial survey in fiscal year 1986.

We oppose enactment of H.R. 2436 for these reasons: Its minimum activities are costly, two to three times current costs in USDA, and I believe that is a conservative estimate, and it is not clear that such increased costs will be effective in satisfying priority data needs. The layers of managers and advisors and administrators and a 10-member board and a 15-member council would require support from our staff and thereby, in our view, delay monitoring research.

It includes dietary guidance, assignments of responsibility that are duplicative of USDA programs and therefore unnecessary.

Designation of the Secretary of Health and Human Services as the responsible official for monitoring would, at a minimum, introduce confusion. Confusion would result because the Secretary of Agriculture in the 1977 farm bill and earlier legislation has been given the lead role in certain major monitoring activities such as food consumption measurement, nutrient data banks, and the food supply and demand determination.

To summarize, we are conducting and planning nutrition monitoring and related research at a pace that is practical relative to the methods, standards, and technologies available. We are opposed to H.R. 2436 as unnecessary and potentially harmful in achieving our nutrition monitoring goals which are essentially the same as those in the proposed legislation.

I do want to emphasize that we feel it is important that public understanding be better developed, and that there is no basic difference on the goals of conducting nutrition monitoring. We appreciate the support of those objectives reflected in the bill though we differ with the means of achieving those ends.

I would be happy to answer your questions as well.

[The prepared statement of Mr. Bode follows:]

Statement of John W. Bode
Acting Assistant Secretary
for Food and Consumer Services
U.S. Department of Agriculture

Before the
Subcommittee on Science, Research and Technology
of the
Committee on Science and Technology

and the
Subcommittee on Department Operations, Research and
Foreign Agriculture
of the
Committee on Agriculture

and the
Subcommittee on Domestic Marketing, Consumer Relations and Nutrition
of the
Committee on Agriculture

U.S. House of Representatives

June 25, 1985

Mr. Chairman and Members of the Committee, I would like to thank you for the opportunity to discuss the Department's nutrition monitoring activities and to comment on H.R. 2436, the "National Nutrition Monitoring and Related Research Act of 1985." We are proud of our progress in monitoring and our plans for the future. Although the Department supports the objectives of H.R. 2436, we do not support the bill as proposed. The legislation imposes new administrative mechanisms on monitoring activities that are now underway and will impede further progress toward meeting the nutrition monitoring goals that were specified in the Joint Implementation Plan for Nutrition Monitoring presented to Congress in 1981.

I will begin by providing a progress report on NNMS activities. The Congress, in The Food and Agriculture Act of 1977 (P.L. 95-113, Sec. 1428), requested the Department of Agriculture (USDA) and the Department of Health and Human Services (DHHS) to develop and submit a plan for a National Nutrition Monitoring System. This plan was submitted to Congress in 1978. The Congress then requested an implementation plan. The Joint Implementation Plan for the National Nutrition Monitoring System, presented by USDA and DHHS to Congress in September 1981, provides a plan for monitoring activities through 1987.

All of the dietary status activities proposed in the NNMS implementation plan are either completed or are underway (see summary table). This demonstrates the major commitment of the Department to developing and maintaining the NNMS.

(1) Activities to improve coordination and comparability between the National Food Consumption Survey (NFCS) and the National Health and Examination Survey (NHANES). The USDA has taken several steps: First, we have initiated formal quarterly meetings between staffs of USDA and DHHS to improve communication and insure greater coordination of survey planning efforts. This is an ongoing activity and one which I hope will be increased in frequency. These meetings have resulted in a single food-coding system and nutrient data base to be maintained by USDA and used in both DHHS and USDA dietary surveys and modifications in certain interview procedures to make them more comparable to those in NHANES. Second, the Department, together with DHHS, asked a committee of statistical and sampling experts to review the structure and procedures of NFCS and NHANES and to recommend ways to improve compatibility. They approved the designs and procedures for both surveys as appropriate for their separate objectives and advised against combining the surveys. Other recommendations included coordinated core questions in the two surveys in the socioeconomic and individual dietary intake data and common definitions, terms, groupings, and tabulations which would facilitate comparability of the output of the two surveys. These recommendations are being implemented. Third, several years ago the Department initiated plans for and then provided grant funds (DHHS also contributed funds) to the Food and Nutrition Board of the National Academy of Sciences (FNB/NAS) for a "Coordinating Committee on Evaluation of Food Consumption Surveys." In 1983, this Committee called a conference for users of food consumption data--representatives from government, academia and industry. After this conference, the FNB/NAS issued a report, "National Survey Data on Food Consumption: Uses and Recommendations," that recommended to the Department ways to improve

food consumption surveys to better meet user needs. The report was presented to the Department in July 1984 and copies were forwarded to this Committee. We have made considerable progress in implementing the FNB/NAS recommendations.

The FNB/NAS Committee on food survey uses, like the statistical committee on survey structure and procedures, recommended that NFCS and NHANES continue to collect dietary intake data in separate surveys. These committees also recommended that a common identical methodological core in both surveys be developed and implemented where consistent with user requirements. These recommendations eliminated the necessity for joint USDA/DHHS pilot studies, which were called for in the implementation plan. However, joint efforts are continuing in order to make the surveys as compatible as possible.

(2) Activities toward the development of a mechanism to evaluate and report Federal nutrition monitoring activities. In 1983, we sponsored jointly with DHHS, the Joint Nutrition Monitoring Evaluation Committee. The first report from this Committee on the nutrition of the U.S. population will be provided to Congress later this year. Although the preparation of this report has taken longer than the Committee had hoped, we believe its summarization and interpretation of the information from Federal monitoring efforts, with recommendations regarding the monitoring system itself, will be extremely useful to the Congress and to the Departments as well.

(3) Activities related to the establishment of a Continuing Survey of Food Intakes by Individuals. The Department, in the 1981 Implementation Plan, proposed to undertake a Continuing Survey in 1985, introducing an important new tool for nutrition monitoring. The Continuing Survey was recommended in two FNB/NAS reports to provide data about the dietary adequacy of the U.S. population on a more timely basis. It is the first attempt to assess a national sample on a continuous basis ever initiated in this or any other country.

The Department's Continuing Survey of Food Intakes by Individuals (CSFII) was initiated April 1 of this year. In calendar years 1985 and 1986, the sample for the Continuing Survey includes the following: (a) Core Monitoring Group: Women 19-50 years of age and their children 1-5 years of age, from households at all income levels; (b) Special Low-income Group: Women 19-50 years of age and their children 1-5 years of age, from households at 130 percent of poverty or less; and (c) In calendar year 1985 only, a sample of men, 19-50 years of age from households at all income levels, with an oversample of men at 130 percent of poverty or less.

For both the Core Monitoring Group and the Low-income Group, data will be collected through six 24-hour recalls of food intake from each respondent spread over a year's period of time. This first national survey to collect 6 days of food data over a year will help us to understand usual intakes more adequately. The first day's intake will be collected by personal interview. Subsequent contacts will be made by telephone, or if the respondent has no phone, by personal interview. The use of the telephone for collecting dietary information for a national sample is also a first. The information being collected is similar to that collected from individuals in NFCS 1977-78. However, additional information is being collected to help make CSFII and NHANES data more comparable and to help satisfy needs expressed by Congress, the FNB/NAS report, and the President's Task Force on Food Assistance, as well as to support our Department's agricultural, food assistance, and nutrition education efforts.

(4) Activities to improve methodology for intake surveys. Because the Continuing Survey was new to national nutrition monitoring, suitable data collection methods had not been identified. As reported in previous testimony, the Department conducted a series of methodology studies between 1981 and 1984 to determine the most appropriate survey design. These studies (1) indicated that adequate dietary intake data could be collected from both the general and low-income population using either a personal or telephone interview but not a mail questionnaire, and (2) identified several alternatives relative to the number of days of dietary intake needed to measure a person's usual intake adequately over a period of a year.

(5) Activities to reduce the timelag between data collection and data reporting. The Department has taken several steps to meet this need. First, foods reported in our surveys are now being coded by computer instead of the time-consuming manual coding of the past. Second, we plan to collect data for the household phase of the 1987 Nationwide Food Consumption Survey (NFCS-87) through direct entry into the computer. Computerization of the food coding and the household data collection, being tried for the first time in national dietary surveys, is expected to improve data quality, cut costs, and improve the timeliness of data reporting. DHHS, with our support, is initiating a study of computerization of interview procedures for collecting food intakes of individuals.

(6) Activities to maintain the decennial Nationwide Food Consumption Surveys. Plans are being finalized for NFCS-87. With approval of the President's FY-86 budget request for HNIS, we will conduct the comprehensive decennial NFCS in 1987. In this survey, information on both household food use and costs as well as 3-day food intakes of all household members will be collected. To be included in NFCS-87 will be a national sample of 6,000 households at all incomes and a special supplemental sample of 3,600 low-income households at 130 percent of poverty or less. The last such survey was conducted in 1977-78.

(7) Activities to expand the National Nutrient Data Bank. As a result of the expansion of the National Nutrient Data Bank, future NHANES and NFCS can be evaluated for calories and 28 nutrients as compared with the 14 nutrients evaluated in the 1977-78 NFCS. At the present time, 12 sections of the revision of Agriculture Handbook No. 8 on the composition of foods have been issued. Others are in process. The entire revision of Handbook No. 8 is planned for completion in 1987.

(8) Activities to improve methods for evaluating dietary intake data. Traditionally, USDA has used the Recommended Dietary Allowances (RDA)

as a basis for evaluating dietary data. However, the RDA are set as targets for use in dietary planning and provide no guidance regarding interpretation if dietary intakes do not meet the allowances. Under a grant from the Department, an FNB/NAS committee of nutrition experts is developing standards for use in appraising nutrient intakes from surveys.

In response to a request by the Assistant Secretary for Food and Consumer Services, USDA, and the Acting Assistant Secretary for Health, DHHS, the Human Nutrition Information Service has proposed to DHHS a plan for extending to 1992 the food consumption component of the Joint Implementation Plan for NNMS in cooperation with their monitoring activities.

Now I would like to direct my comments to H.R. 2436, the "National Nutrition Monitoring and Related Research Act of 1985." The Department supports the objectives of H.R. 2436, but we do not support enactment of the bill as it now stands. Our reasons are as follows:

(1) H.R. 2436, if enacted, would confuse the Departmental authority for several research programs. The bill specifies five major activity areas for coverage in nutrition monitoring. These are: dietary, nutritional, and health status measurements; food consumption measurements; food composition measurements and nutrient data banks; dietary knowledge and attitude measurements; and food supply and demand determinations. The Farm Bill of 1977 and earlier legislation gave USDA lead responsibility for three of these activity areas and parts of the other two. However, H.R. 2436, Sec. 101 (b) places the responsibility for National Nutrition Monitoring with the Secretary of Health and Human Services and Sec. 104 (b) states "nothing in this title shall be deemed...to modify any regulatory authority under existing law...." Therefore, H.R. 2436 appears to give the Secretary of DHHS responsibility for activities for which USDA is also given the lead role under current law. Such a situation would put USDA's Human Nutrition Information Service and parts of other USDA agencies in the difficult situation of reporting to two cabinet members.

(2) H.R. 2436 mandates a management structure that would be cumbersome and likely to delay the Department in achieving its monitoring goals. This structure includes an Administrator, a 10-member Board, and a 15-member Council. The Department of the Army is assigned as one of three chairmen of the Board; however, last year DOA indicated to this Subcommittee that they were not interested in participating in this role. Support of such a bureaucracy would require valuable funds and time of USDA and DHHS participating agency staff that could otherwise be devoted to research and data collection. In all probability, the layers of bureaucracy would delay the progress of certain monitoring activities for which timing is particularly important.

(3) The Department is also concerned with the eventual cost associated with the minimum monitoring efforts specified in the bill, especially continuous collection of data on high-risk groups by geographic and geopolitical areas. We estimate costs associated with the minimum efforts for dietary data alone to add $15.5

million per year in 1985 dollars. This is twice the average annual funding level of our current monitoring effort. We believe there are more efficient and economical ways to collect data necessary for monitoring purposes than proposed in the Bill.

(4) The bill provides grant funds to the National Science Foundation (NSF) to develop nutritional and dietary status indicators and standards. Last year, NSF testified that they did not have expertise for management of this type of research. Thus, the result may not be a well-coordinated research plan required to meet the needs of the monitoring agencies. Such research could be better handled by those agencies which have previous experience in these areas as well as an understanding of methodological needs.

(5) The bill requests the Secretary to contract with a scientific body such as NAS or FASEB to interpret data and to ..."recommend dietary guidance and effective communication of such guidance to the public." While these activities are outcomes of a successful monitoring system, they are nutrition education activities and are legistatively mandated as a responsibility of USDA (National Agricultural Research Extension and Teaching Policy Act of 1977, Section 1422).

(6) We do not foresee that user fees would cover any significant portion of the costs associated with the monitoring system. The surveys are designed primarily to meet the data needs of Federal agencies. Although food industries use data from the NFCS and NHANES, these data would not serve their needs completely. Also, data cannot be proprietary to a given industry. For these reasons, it is unlikely that the food industry would pay significant sums for such data. Certainly, State and local planning groups to whom we are trying to make our data available will not be able to pay large fees. Thus, user fees, if set at a level capable of generating significant income, would defeat one of our major goals in the monitoring system; i.e., bringing these data into use by more than just the Federal agencies.

Although opposed to H.R. 2436, the Department supports the overall purposes of the Act to implement a coordinated and comprehensive approach to nutrition monitoring. This will require continued effective management and oversight of the current system.

A mechanism for this has evolved as a result of cooperation between USDA and DHHS since 1981 and is outlined on the next page.

The purposes of the management/oversight mechanism are: (1) To continue to implement the current NNMS as a means of furthering its stated goals, and (2) to extend monitoring activities as necessary to provide the scientific basis for the assessment of the nutritional status of the U.S. population and the nutritional quality of the U.S. food supply.

As I have said earlier, we at HNIS and USDA are committed to providing the best monitoring data possible in the fastest, yet efficient and scientifically sound, manner. We believe that we can achieve this goal without the added burdens of additional layers of managers and advisors required by H.R. 2436 and within a reasonable budget.

MECHANISM FOR MANAGEMENT AND OVERSIGHT OF THE NATIONAL NUTRITION MONITORING SYSTEM (NNMS)

I. Management

A. Co-managers:

o Assistant Secretary for Health

o Assistant Secretary for Food and Consumer Services

B. Duties:

o Develop and maintain a comprehensive nutrition monitoring plan that extends 5 years ahead. In developing the plan, consider the--

--Comprehensive joint DHHS and USDA plan of 1981.

--Monitoring activities and data needs of Federal agencies, such as USDA's Human Nutrition Information Service (HNIS), Agricultural Research Service, and Economic Research Service; DHHS's National Center for Health Statistics (NCHS), Food and Drug Administration, and Centers for Disease Control; other agencies in the two Departments; the Department of Defense; the Environmental Protection Agency; and USDL's Bureau of Labor Statistics.

--Monitoring activities and data needs of States and localities and other groups.

--Recommendations of Data Users Conferences (see below).

--Recommendations of a Nutrition Monitoring Evaluation Committee (see below).

o Sponsor conferences of users of dietary and nutrition status data.

o Sponsor a Nutrition Monitoring Evaluation Committee with expertise in nutrition monitoring to prepare periodic reports to Congress on the nutrition of the population and to make recommendations for improving the NNMS.

o Conduct and/or encourage the conduct of surveys, and studies of methodologies and standards for surveys. Administer contract and grant funds for part of this research.

o Advise State and local groups on dietary (USDA) and health and nutrition examination (DHHS) surveys.

o Report status of monitoring activities to Congress annually.

o Convene workshops to help in developing monitoring plans.

II. Oversight

A. Nutrition Monitoring Evaluation Committee will: (1) submit a report on the nutrition of the population to Congress at least every 3 years and (2) make recommendations for improvement of NNMS.

B. Users of data will confer periodically to define priority data needs and make recommendations. Users of data will review survey designs and questionnaires.

C. Offices of the Assistant Secretaries of the two Departments will review and approve (5-year) nutrition monitoring plans.

III. USDA and DHHS Action Required

A. Allocate staff and funding required to implement the nutrition monitoring plan.

B. Delegate HNIS and NCHS authority to enter into cooperative agreements, contracts, and grants with universities and other groups to conduct nutrition monitoring related research.

Summary Table

PROGRESS ON DIETARY STATUS COMPONENTS OF THE NATIONAL NUTRITION MONITORING SYSTEM

Actions proposed in 1981 Joint Implementation Plan	USDA Activities Underway or Completed
1. Improve coordination and comparability between NHANES and NFCS	o Joint quarterly meetings to improve compatibility of various aspects of surveys, such as survey designs; questionnaires; procedures; data processing techniques, coding, and data bases; and population categories to be reported - continuing. o NFCS and NHANES purposes and procedures reviewed by a committee of statisticians and sampling experts. Recommendations being implemented. o FNB Data Users conference initiated by USDA - First conference reported in 1984.
2. Develop a mechanism to evaluate and report Federal Nutrition Monitoring Activities.	o Joint Nutrition Monitoring Evaluation Committee met 7 times; report to Congress ready for Departmental review.
3. Develop a Continuing Survey on Food Intakes by Individuals.	o Continuing Survey initiated in 1985.
4. Improve methodology for intake surveys.	o Two major methodology studies and several smaller studies completed or underway.
5. Improve timeliness of data reporting.	o Computerization of coding of foods reported - in use. o Computerization of collection of household food consumption data - being field tested.
6. Maintain decennial Nationwide Food Consumption Surveys.	o Survey planned for 1987-88, comparable to NFCS 1977-78.
7. Expand Nutrient Data Bank.	o Food intakes from 1985 survey can be evaluated for 28 nutrients, compared with 14 in 1978, because of expanded data.
8. Improve methods for evaluating dietary intake data.	o Grant to FNB/NAS to develop nutrient intake criteria.

Mr. BROWN. Thank you, Mr. Bode.

We will hear from Major General Rapmund first and then we will have questions for the entire panel.

STATEMENT OF MAJ. GEN. GARRISON RAPMUND, ASSISTANT SURGEON GENERAL FOR RESEARCH AND DEVELOPMENT, DEPARTMENT OF THE ARMY

General RAPMUND. Mr. Chairman and members of the committee, I am Maj. Gen. Garrison Rapmund, Assistant Surgeon General for Research and Development, Department of the Army. The Department of the Army has been designated as the representative of the Department of Defense for this legislation. I represent the Department of the Army for that purpose.

I have some brief remarks that will highlight some key points contained in my prepared statement, and I ask that my prepared statement be incorporated into the record.

Mr. BROWN. Without objection, so ordered.

General RAPMUND. Mr. Chairman, I am pleased to have the opportunity to comment on H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985, and provide a brief update on Department of Defense activities in the area of human nutrition research and monitoring. Since my testimony before this committee last year, we have made significant advances.

I am pleased to announce that the DOD reestablished, in September of 1984, a Soldier Nutrition Research Program at the U.S. Army Research Institute of Environmental Medicine at Natick, MA. The mission of the program is specifically directed to nutrition-related problems of feeding troops in battlefield environments. The critical end point of the research is the effective performance of cognitive, psychomotor, and physical tasks during sustained operations in all environmental extremes.

The primary focus of the first year's efforts has been the evaluation of the current combat field feeding system. A test will be conducted over an 11-week period in July, August, and September 1985 at the Pohakuloa Training Center on the Island of Hawaii. This is the largest test of a military field feeding system undertaken since World War II.

Data will be collected on the operational capabilities of the combat field feeding system, the ability of the rations to maintain the health and nutritional status of troops, and the acceptability and effect on morale and unit cohesion. A medical and nutritional evaluation of the soldiers subsisting solely on the combat rations will be done. The results of this test will have a significant impact on the development of military rations for years to come.

The Nutrition Research Task Force is also providing input to the U.S. Army Natick Research and Development Center in the development of a ration for use in the 21st century. To support the soldier on the battlefield of tomorrow, a calorically dense, low volume ration or nutrition sustainment module is needed. The Surgeons General have obvious concerns with the effects of a high fat, low carbohydrate ration on short-term soldier performance and long-term health maintenance.

Four other areas in which DOD is conducting military related research include the use of a liquid carbohydrate supplement for high altitude operations, a different liquid nutrient solution for use in contaminated environments, the effects of high fat diets and metabolic adaptations to high fat, low carbohydrate diets, and the effect of dietary tyrosine supplementation under conditions of environmental stress.

A significant accomplishment for the Air Force, Army, and Navy was the publication of a tri-service regulation on nutritional allowances, standards, and education. This regulation is expected to influence food procurement policy, food preparation, recipe formulation, and menu development throughout the services. It defines the nutritional responsibilities of the Surgeons General and prescribes military recommended dietary allowances to meet known nutritional needs of practically 17 to 50-year-old moderately active military personnel.

Furthermore, the publication sets the nutrient standards for packaged rations and provides a standardized nutrient density index for normal and reduced caloric menu planning. Nutrition education guidelines to assist the military in promoting a healthful diet and optimal fitness are included.

The military leadership is concerned that service members consume a healthful diet to optimize performance and to prevent chronic disease. Nutrition education efforts through the Armed Services media have been increased and directed not only to soldiers but also to their families. The Military Surgeons General have recommended the soldier's diet contain no more than 35 percent calories from fat. To accomplish this goal and allow soldiers desiring to lower their caloric intake to do so, many initiatives have been implemented in garrison dining facilities.

The Armed Forces have a long established concern for involvement in the health of their workforce. As a result of a blue ribbon panel report, DOD is publishing a directive expected to be out this summer on health promotion. The directive establishes a policy for promoting physical and mental health within the Department of Defense. Specific program elements to be addressed include nutrition, physical fitness, smoking prevention and cessation, stress management, alcohol and drug abuse prevention, and early identification of hypertension.

Mr. Chairman, with the increased emphasis on health promotion, we recognize a need for a system to monitor the overall health, nutrition, and fitness status of our personnel. The Army is establishing a health, nutrition, and fitness surveillance project. The project provides a mechanism for evaluating the effectiveness of specific nutrition intervention initiatives. Trends in the health status and occupational health hazards unique to military personnel can be identified and monitored. There currently exists a number of data bases on military personnel that will provide valuable information for analysis.

The DOD is working more closely than ever with the Department of Health and Human Services and the Department of Agriculture on a number of efforts. The Committee on Military Nutrition Research of the National Academy of Sciences, National Research Council Food and Nutrition Board continues to serve a valuable role in providing advisory support.

DOD actively participates as a member of the interagency committee on human nutrition research. As the National Center for Health Statistics incorporates more on physical fitness into the 1988 National Health and Nutrition Examination Survey III effort, DOD is providing expert input on survey and measurement strategies as applied to military populations over the years.

In regard to H.R. 2436, DOD again defers to HHS and USDA on the need for a national nutrition monitoring system. We appreciate the effort to make H.R. 2436 less cumbersome than the previous bill, 4684. However, the structure proposed by H.R. 2436 also appears to be excessively cumbersome to achieve the desired objective.

As last year, we do not support the proposal to have a DOD representative, the Assistant Surgeon General for Research and Development in the Department of the Army, serve as a cochair for the intergovernment science board for nutrition monitoring and related research. The primary responsibility lies with HHS and USDA, and it is appropriate for those two agencies to comanage a system for that purpose. The Department of Defense is most willing to provide qualified participants to serve on interagency committees and task forces when appropriate.

The Department of Defense continues to support the concept of incorporating military populations into the national nutrition monitoring system survey design. The previous National Health and Nutrition Examination Survey and Nationwide Food Consumption Survey had specifically excluded military populations. In addition to the obvious benefits to the Department of Defense, a unique opportunity exists for conducting longitudinal studies in specific target populations if the military is included in the surveys.

The Department of Defense is interested in maintaining close liaison with USDA and DHHS. It is a relationship that is mutually beneficial to all.

I have appreciated this opportunity for appearing before the committee and shall be happy to answer any questions you may have.

Thank you.

[The prepared statement of General Rapmund follows:]

STATEMENT BY

MAJOR GENERAL GARRISON RAPMUND

ASSISTANT SURGEON GENERAL FOR RESEARCH AND DEVELOPMENT

DEPARTMENT OF THE ARMY

BEFORE

THE SUBCOMMITTEE ON SCIENCE, RESEARCH, AND TECHNOLOGY

HOUSE SCIENCE AND TECHNOLOGY COMMITTEE

AND

THE SUBCOMMITTEE ON
DEPARTMENT OPERATIONS, RESEARCH AND FOREIGN AGRICULTURE

AND

THE SUBCOMMITTEE ON
DOMESTIC MARKETING, CONSUMER RELATIONS AND NUTRITION

HOUSE AGRICULTURE COMMITTEE

25 JUNE 1985

Mr. Chairman and members of the Committee:

I am Major General Garrison Rapmund, Assistant Surgeon General for Research and Development, Department of the Army. The Department of the Army has been designated as the representative for the Department of Defense (DOD) for this legislation. I represent the Department of the Army for that purpose. I have a brief prepared statement which I would like to present.

Mr. Chairman, I am pleased to have the opportunity to comment on H.R. 2436 the National Nutrition Monitoring and Related Research Act of 1985 and provide a brief update on the Department of Defense activities in the area of human nutrition research and monitoring. Since my testimony before this Committee last year, we have made significant advances.

I am pleased to announce that DOD re-established, in September 1984, a soldier nutrition research program at the U.S. Army Research Institute of Environmental Medicine (USARIEM) at Natick, MA. The mission of the program is specifically directed to nutrition related problems of feeding troops in tomorrow's battlefield environment. The critical end point of the research is the effective performance of cognitive, psychomotor and physical tasks during sustained operations in all environmental extremes.

A PRIMARY FOCUS OF THE FIRST YEAR'S EFFORTS HAS BEEN THE EVALUATION OF THE CURRENT COMBAT FIELD FEEDING SYSTEM. A TEST WILL BE CONDUCTED OVER AN ELEVEN WEEK PERIOD IN JULY, AUGUST, AND SEPTEMBER 1985 AT POHAKULOA ON THE ISLAND OF HAWAII. THIS IS THE LARGEST TEST OF A MILITARY FIELD FEEDING SYSTEM UNDERTAKEN SINCE WORLD WAR II AND WILL INVOLVE OVER TWO THOUSAND PERSONNEL DURING A PORTION OF THE TEST. IN ADDITION TO OBTAINING DATA ON THE OPERATIONAL CAPABILITIES OF THE COMBAT FIELD FEEDING SYSTEM, DATA WILL BE COLLECTED ON THE ABILITY OF THE RATIONS TO MAINTAIN THE HEALTH AND NUTRITIONAL STATUS OF TROOPS. ANOTHER OBJECTIVE IS TO DETERMINE THE ACCEPTABILITY AND EFFECT ON MORALE AND UNIT COHESION OF THE RATIONS. A MEDICAL AND NUTRITIONAL EVALUATION OF THE SOLDIERS SUBSISTING SOLELY ON THE COMBAT RATIONS WILL BE DONE. DATA TO BE COLLECTED INCLUDES CALORIE, NUTRIENT AND FLUID INTAKE, BODY WEIGHT, HYDRATION STATUS, NUTRITIONAL STATUS, MUSCLE STRENGTH AND ENDURANCE, EYE AND HAND COORDINATION AND HEALTH DISORDERS. THE RESULTS OF THIS TEST WILL HAVE A SIGNIFICANT IMPACT ON THE DEVELOPMENT OF MILITARY RATIONS FOR YEARS TO COME. THE NUTRITION RESEARCH TASK FORCE IS ALSO PROVIDING INPUT TO THE U.S. ARMY NATICK RESEARCH AND DEVELOPMENT CENTER (USANRDC) IN THE DEVELOPMENT OF A RATION FOR USE IN THE TWENTY FIRST CENTURY. TO SUPPORT THE SOLDIER ON THE BATTLEFIELD OF TOMORROW, A CALORICALLY DENSE, LOW VOLUME RATION OR NUTRITION SUSTAINMENT MODULE IS NEEDED. THE SURGEONS GENERAL HAVE OBVIOUS CONCERNS WITH THE EFFECTS OF A HIGH FAT, LOW CARBOHYDRATE RATION ON SHORT TERM SOLDIER PERFORMANCE AND LONG TERM HEALTH MAINTENANCE.

I would like to highlight four other areas in which DOD is conducting military related nutrition research. The use of a liquid carbohydrate supplement for high altitude operations is being evaluated at Mauna Kea, also on the Island of Hawaii, in July 1985. The purpose of this week long test is to determine the effects of the supplement on performance, fluid and nutrient consumption, hydration status, and acute mountain sickness symptoms. A different liquid nutrient solution for use in contaminated environments is being tested at the Human Engineering Laboratory, Aberdeen, MD. The need for and composition of this liquid nutrient solution resulted from a DOD sponsored National Academy of Sciences, National Research Council Workshop. Researchers at the Naval Health Research Center in San Diego, CA, are investigating the effects of high fat diets and metabolic adaptations to high fat low carbohydrate diets. Last year I mentioned a workshop hosted by the Committee on Military Nutrition Research on Cognitive Testing Methodologies for Military Nutrition Research. As a result of that workshop, psychologists at U.S. Army Research Institute of Environmental Medicine and Massachusetts Institute of Technology are working collaboratively on studies to evaluate the effects of dietary tyrosine supplementation under conditions of environmental stress.

A significant accomplishment for the Air Force, Navy, and Army was the publication of a tri-service regulation on nutrition

ALLOWANCES, STANDARDS AND EDUCATION. THIS REGULATION IS EXPECTED TO INFLUENCE FOOD PROCUREMENT POLICY, FOOD PREPARATION, RECIPE FORMULATION, AND MENU DEVELOPMENT THROUGHOUT THE SERVICES. IT DEFINES THE NUTRITION RESPONSIBILITIES OF THE SURGEONS GENERAL AND PRESCRIBES MILITARY RECOMMENDED DIETARY ALLOWANCES (MRDA) TO MEET KNOWN NUTRITIONAL NEEDS OF PRACTICALLY ALL 17-50 YEAR OLD, MODERATELY ACTIVE MILITARY PERSONNEL. FURTHERMORE, THE PUBLICATION SETS THE NUTRIENT STANDARDS FOR PACKAGED RATIONS AND PROVIDES A STANDARDIZED NUTRIENT DENSITY INDEX FOR NORMAL AND REDUCED CALORIE MENU PLANNING. NUTRITION EDUCATION GUIDELINES TO ASSIST THE MILITARY IN PROMOTING A HEALTHFUL DIET AND OPTIMAL FITNESS ARE INCLUDED. THE GUIDELINES WERE ADAPTED FROM THE 1980 DIETARY GUIDELINES FOR AMERICANS.

THE MILITARY LEADERSHIP IS CONCERNED THAT SERVICE MEMBERS CONSUME A HEALTHFUL DIET TO OPTIMIZE PERFORMANCE AND TO PREVENT CHRONIC DISEASE. NUTRITION EDUCATION EFFORTS THROUGH THE ARMED SERVICES MEDIA HAVE BEEN INCREASED AND DIRECTED NOT ONLY TO SOLDIERS BUT ALSO THEIR FAMILIES. THE MILITARY SURGEONS GENERAL HAVE RECOMMENDED THE SOLDIER'S DIET CONTAIN NO MORE THAN THIRTY FIVE PERCENT CALORIES FROM FAT. TO ACCOMPLISH THIS GOAL AND ALLOW SOLDIERS DESIRING TO LOWER THEIR CALORIC INTAKE TO DO SO, SPECIFIC INITIATIVES HAVE BEEN IMPLEMENTED IN GARRISON DINING FACILITIES. TWO PERCENT LOW FAT MILK IS NOW THE PRIMARY MILK SOURCE. FIVE HUNDRED CALORIE MENUS ARE AVAILABLE. ALSO, A SHORT ORDER "FITNESS MENU" OF 450-650 CALORIES PROVIDES AN ALTERNATIVE

TO THE ALREADY POPULAR SHORT ORDER LINE. DOD RECIPES ARE BEING CHANGED TO REFLECT LOWER FAT AND SODIUM CONTENT. A WIDER SELECTION OF WHOLE GRAIN BREADS AND ROLLS ARE OFFERED. ALL OF OUR FOOD SERVICE PERSONNEL RECEIVE NUTRITION TRAINING.

THE ARMED FORCES HAVE A LONG ESTABLISHED CONCERN FOR INVOLVEMENT IN THE HEALTH OF THEIR WORKFORCE. THE DEPARTMENT OF DEFENSE RECOGNIZES THAT POOR DIETARY HABITS, SMOKING, ALCOHOL AND DRUG ABUSE, LACK OF REGULAR EXERCISE, AND EXCESSIVE STRESS PLACE AT RISK THE HEALTH AND WELL-BEING OF MILITARY PERSONNEL, CIVILIAN EMPLOYEES, RETIREES AND THEIR FAMILIES. THE COSTS ARE SUBSTANTIAL IN TERMS OF MILITARY READINESS, PRODUCTIVITY, HEALTH CARE EXPENDITURES AND QUALITY OF LIFE.

IN NOVEMBER 1984, A "BLUE RIBBON PANEL" OF PUBLIC HEALTH EXPERTS MET TO ASSESS THE PRESENT LEVEL OF DOD ACTIVITY IN HEALTH PROMOTION AND MAKE RECOMMENDATIONS FOR IMPROVEMENTS. AMONG OTHERS, THE PARTICIPANTS INCLUDED REPRESENTATIVES FROM DEPARTMENT OF HEALTH AND HUMAN SERVICES AND HARVARD UNIVERSITY. AS A RESULT OF THE BLUE RIBBON PANEL REPORT, THE DOD IS PUBLISHING A DIRECTIVE, EXPECTED TO BE OUT THIS SUMMER, ON HEALTH PROMOTION. THE DIRECTIVE ESTABLISHES A POLICY FOR PROMOTING PHYSICAL AND MENTAL HEALTH WITHIN THE DOD. IT IS DOD'S INTENT TO ENCOURAGE THE HEALTH AND WELL-BEING OF MILITARY AND CIVILIAN PERSONNEL, RETIREES AND FAMILIES THROUGH A COMPREHENSIVE HEALTH PROMOTION

PROGRAM. SPECIFIC PROGRAM ELEMENTS TO BE ADDRESSED INCLUDE: NUTRITION FOR GOOD HEALTH, PREVENTION OF DISEASE AND WEIGHT CONTROL; PHYSICAL FITNESS TO ESTABLISH AND MAINTAIN PHYSICAL STAMINA AND CARDIORESPIRATORY ENDURANCE; SMOKING PREVENTION AND CESSATION; STRESS MANAGEMENT; ALCOHOL AND DRUG ABUSE PREVENTION AND EARLY IDENTIFICATION OF HYPERTENSION.

MR. CHAIRMAN, WITH THE INCREASED EMPHASIS ON HEALTH PROMOTION, WE RECOGNIZE A NEED FOR A SYSTEM TO MONITOR THE OVERALL HEALTH, NUTRITION AND FITNESS STATUS OF OUR PERSONNEL. THE ARMY PLANS TO ESTABLISH A HEALTH, NUTRITION AND FITNESS SURVEILLANCE PROJECT. THE PROJECT WILL PROVIDE A MECHANISM FOR EVALUATING THE EFFECTIVENESS OF SPECIFIC NUTRITION INTERVENTION INITIATIVES. TRENDS IN THE HEALTH STATUS AND OCCUPATIONAL HEALTH HAZARDS UNIQUE TO MILITARY PERSONNEL CAN BE IDENTIFIED AND MONITORED.

THERE CURRENTLY EXISTS A NUMBER OF DIVERSE DATA BASES ON MILITARY PERSONNEL THAT WILL PROVIDE VALUABLE INFORMATION ONCE COMPILED AND ANALYZED. ALL ACTIVE DUTY ARMY PERSONNEL ARE REQUIRED TO TAKE A PHYSICAL READINESS TEST TWICE YEARLY. THE SOLDIER'S ABILITY TO MEET SPECIFIC PHYSICAL FITNESS REQUIREMENTS IS EVALUATED AND HEIGHT AND WEIGHT DATA IS COLLECTED. THE PERIODIC PHYSICAL EXAM CONDUCTED ON EVERY SOLDIER WAS EXPANDED RECENTLY TO INCLUDE A CARDIOVASCULAR RISK ASSESSMENT AND FEEDBACK PROGRAM. ALL PERSONNEL OVER THE AGE OF FORTY RECEIVE A COMPLETE MEDICAL EXAM AND ARE EVALUATED BY THE FRAMINGHAM INDEX. LONGITUDINAL

STUDIES ARE NEEDED TO IDENTIFY AND MONITOR OCCUPATIONAL HEALTH HAZARDS UNIQUE TO MILITARY PERSONNEL. THE SURVEILLANCE PROGRAM WOULD COORDINATE THOSE REQUIREMENTS.

DOD IS WORKING MORE CLOSELY THAN EVER WITH THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (DHHS) AND THE U.S. DEPARTMENT OF AGRICULTURE (USDA) ON A NUMBER OF EFFORTS. THE COMMITTEE ON MILITARY NUTRITION RESEARCH OF THE NATIONAL ACADEMY OF SCIENCES, NATIONAL RESEARCH COUNCIL FOOD AND NUTRITION BOARD CONTINUES TO SERVE A VALUABLE ROLE IN PROVIDING ADVISORY SUPPORT. THE COMMITTEE HOSTED A WORKSHOP IN OCTOBER 1984 ON THE KNOWLEDGE NEEDED FOR THE DEVELOPMENT OF PREDICTIVE MODELS OF MILITARY PERFORMANCE DECREMENTS RESULTING FROM INADEQUATE NUTRITION.

DOD ACTIVELY PARTICIPATES AS A MEMBER OF THE INTERAGENCY COMMITTEE ON HUMAN NUTRITION RESEARCH. IN JANUARY 1985, THE COMMITTEE SPONSORED A WIDELY ATTENDED CONFERENCE FOR FEDERALLY SUPPORTED HUMAN NUTRITION RESEARCH UNITS AND CENTERS.

THE DEPARTMENT OF DEFENSE HAS LONG BEEN A LEADER IN THE PROMOTION OF PHYSICAL FITNESS AND IN METHODOLOGIES TO MEASURE FITNESS AND ACTIVITY LEVELS AMONG ITS MEMBERS. AS THE NATIONAL CENTER FOR HEALTH STATISTICS (NCHS) INCORPORATES MORE ON PHYSICAL FITNESS INTO THE 1988 NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY (NHANES) III EFFORT, WE ARE PROVIDING EXPERT INPUT ON SURVEY AND

MEASUREMENT STRATEGIES AS APPLIED TO MILITARY POPULATIONS OVER THE YEARS.

IN REGARD TO H.R. 2436, DOD AGAIN DEFERS TO DHHS AND USDA ON THE NEED FOR A NATIONAL NUTRITION MONITORING SYSTEM. WE APPRECIATE THE EFFORTS TO MAKE H.R. 2436 LESS CUMBERSOME THAN THE PREVIOUS BILL H.R. 4684. HOWEVER, THE STRUCTURE PROPOSED BY H.R. 2436 ALSO APPEARS TO BE EXCESSIVELY CUMBERSOME TO ACHIEVE THE DESIRED OBJECTIVE. AS LAST YEAR, WE DO NOT SUPPORT THE PROPOSAL TO HAVE A DOD REPRESENTATIVE, THE ASSISTANT SURGEON GENERAL FOR RESEARCH AND DEVELOPMENT IN THE DEPARTMENT OF THE ARMY, SERVE AS A CO-CHAIR FOR THE INTERGOVERNMENT SCIENCE BOARD FOR NUTRITION MONITORING AND RELATED RESEARCH. THE PRIMARY RESPONSIBILITY FOR NATIONAL MONITORING LIES WITH DHHS AND USDA AND IT IS APPROPRIATE FOR THOSE TWO AGENCIES TO CO-MANAGE A SYSTEM FOR THAT PURPOSE. THE DEPARTMENT OF DEFENSE IS MOST WILLING TO PROVIDE QUALIFIED PARTICIPANTS TO SERVE ON INTERAGENCY COMMITTEES AND TASK FORCES WHEN APPROPRIATE.

THE DEPARTMENT OF DEFENSE CONTINUES TO SUPPORT THE CONCEPT OF INCORPORATING MILITARY POPULATIONS INTO THE NATIONAL NUTRITION MONITORING SYSTEM SURVEY DESIGN. THE PREVIOUS NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY AND NATIONWIDE FOOD CONSUMPTION SURVEY (NFCS) HAD SPECIFICALLY EXCLUDED MILITARY POPULATIONS. IN ADDITION TO THE OBVIOUS BENEFITS TO THE DEPARTMENT OF DEFENSE, A UNIQUE OPPORTUNITY EXISTS FOR CONDUCTING LONGITUDINAL STUDIES IN

SPECIFIC TARGET POPULATIONS IF THE MILITARY IS INCLUDED IN THE SURVEYS. THE MILITARY SURGEONS GENERAL ARE RESPONSIBLE FOR MONITORING THE NUTRITION STATUS OF THEIR PERSONNEL AND REPORTING ANY NUTRITIONAL DEFICIENCIES AND EXCESSES.

THE DEPARTMENT OF DEFENSE IS INTERESTED IN MAINTAINING CLOSE LIAISON WITH USDA AND DHHS. IT IS A RELATIONSHIP THAT IS MUTUALLY BENEFICIAL TO ALL THREE AGENCIES.

I HAVE APPRECIATED THIS OPPORTUNITY OF APPEARING BEFORE THE COMMITTEE AND SHALL BE HAPPY TO ANSWER ANY QUESTIONS YOU MAY HAVE REGARDING THIS TESTIMONY.

Mr. MacKay [acting chairman]. Thank you.

Mr. Morrison?

Mr. Morrison. Thank you, Mr. Chairman.

Mine is not necessarily a question, I guess, an observation that everyone involved in the work now seems to be pleased with the current structure and that you are working together. I understand that some of the criticisms that have been raised in today's hearings perhaps you have answered, that is, there is better coordination, better communication, and you can act more quickly, maybe get back on schedule. Am I reading you right, particularly Dr. Mason, your comments?

Dr. Mason. Yes, I strongly feel that having not been around long enough to delve into the past, if there were problems in the past, I think that we are working ourselves out of those.

The coordination that Dr. Bentley and I have is a close working one. I guess I see him almost as often as I see some of my agency directors in the Public Health Service, and it is not just that he and I meet together but that he is meeting with my staff and my staff are meeting with him.

Someone once said, "if it ain't broke, don't fix it." Well, it may have been broken, but I think it is almost fixed. Give us another year and I think we will have the smoothest working nutritional cooperation, and I really mean that. I think we are really coming out on top of this one, and I would hate to see it change because whatever the change, even if it basically could improve things, it takes a long time to get used to the new organization and set it up. I think this is going to happen at a time when we really are moving along at an optimal pace and a lot of the problems that may have discouraged and frustrated you and others in the past, I think, are behind us.

Mr. Morrison. Do I take it that Health and Human Services does not want to be the lead agency if we change the ground rules?

Dr. MASON. I think, exactly as has been said, there are responsibilities that are given to the Secretary of Health and Human Services and there are responsibilities that are given to the Secretary of Agriculture. I believe the way we are handling this today best facilitates our having specific responsibilities, carrying them out, and coordinating in the many, many areas where we just must work together.

Mr. BODE. If I could, Mr. Morrison, the Department of Agriculture would not want to be lead agency for the entire monitoring effort either. We think that the most reasonable approach is for responsibility to reside as it does now where USDA is responsible for the USDA monitoring activities and HHS is, of course, primarily responsible for its programmatic activities.

Mr. MORRISON. I am inclined to agree with you but the legislation, as you know, doesn't.

Thank you very much, Mr. Chairman. That is my only inquiry of this panel.

Mr. MACKAY. Thank you, Mr. Morrison.

I would like to point out one area where there seems to be some misunderstanding. This bill does not require a 10-member science policy board. It names three members, presumably the three who are sitting here, and it says those three can choose up to seven more. So, in terms of cumbersomeness, if you don't consider what you have now cumbersome, you can just keep it. It is a 9-member committee, and the bill was designed with that in mind. I just want to point that out. We are not mandating anything different than what you have now. We are saying the three agencies can pick up to seven more and you can have not more than 10. You have nine now of your own volition, so you could continue that.

I would like to ask one other thing just to make sure I understand the coordination thing. The thing that bothers me is that as of now, we are getting effectively one survey per decade out of each agency. And you all are now very close to the end of this decade's planning cycle. This goes to the if it ain't broke, don't fix it. It ain't different than it was last year, and I thought it was broke last year.

So, here is what I see happening. You all jointly funded a Food and Nutrition Board study by the National Academy of Sciences. I thought that was a good idea. They made a recommendation in 1984. Their recommendation, as I understood it, and maybe I misunderstand it, their recommendation was that you all adopt a moving average approach where you sample 20 percent of the population per year and that both agencies do that and that you coordinate that. Then, we wouldn't have this high tremendous amount of data, that obviously has been the problem in the way we have been doing it, in the system that ain't broke but don't produce nothing. So, what it said was get 20 percent of the data per year and then what data you have you could get out timely and you would be getting it in both agencies.

Now, I understand HHS is moving in that direction and USDA is not. Now, that seems to me to be the opposite of saying we are getting better with our coordination. It seems to me to say what we get in this decade is going to be even less comparable than what we got in the last decade.

I would like all of you to respond to my biases.

Mr. Bode. Mr. Chairman, we do have work underway on the continuing survey which is intended to be an ongoing data collection activity. We have had work in the field this spring.

As far as the timeliness of data, we expect to have the analysis of that data available to you this year. Now, I think that is a very significant improvement on what has been done in the past and a pretty reasonable turnaround time on providing data. I think that is a good response to the recommendation you referred to.

We plan to have that work in the field next year as well. We also expect a good timely response in providing that data to you.

Dr. Mason. Sir, I would like to just comment that with regard to the Hispanic HANES, that was completed in December 1984 right on time, and the data is being analyzed. I would like to call upon Dr. Feinleib who is the director of the National Center for Health Statistics to respond specifically to your question.

Dr. Feinleib. I would like to say that you are quite correct that we are generating plans to put the Health and Nutrition Examination Survey on a continuing basis. There are a lot of reasons for that. Most of this the committee has already heard. One which you may not be aware of but which is very important to us is to be able to provide better data in a more timely fashion for subgroups of the population that are so important to our nutritional policy.

Although we are starting the third National Health and Nutrition Examination Survey a year late compared to when it was originally planned, it is getting off to a much firmer start than would have been originally possible, including the plan to develop automated procedures, to get the data out on a better basis, and to expand our survey design to allow for a continuing basis so that in the early 1990's it will start coming out on a regular biennial basis allowing for the moving averages for the total population and for various subgroups.

So, I think that as we look toward the next decade, the whole Health and Nutrition Monitoring Program will be on a much sounder basis.

Mr. MacKay. I am not asking this question because I have a point I want to make, in other words, this is not an editorial question. I just need to understand factually.

The NFCS study, that is not the one you were talking about, is it?

Mr. Bode. Sir, I was referring to the continuing survey on the food intakes of individuals which has been in the field this year, and will be in the field next year. The Nationwide Food Consumption Survey is the decennial effort, the major effort that occurs approximately each 10 years.

So, what I was referring to was a different effort, one that was recommended by the academy report to augment the decennial survey, and we think it is an important part of our monitoring efforts so that we will have more regular data coming in in the interim between these major decennial surveys. In that way we will better be able to track trends using not only core groups but also special samples from at risk populations.

Mr. MacKay. All right. Now, my question was based on this statement out of the committee's report:

The committee recommends redesign of the individual dietary intake component of the NFCS. Instead of an intermittent 1-year survey of a large sample, the committee suggests an annual survey that would distribute the total sample over a number of years.

Now, it seems to me half of your coordinated effort has agreed to that recommendation and half of it has not. Your failure to agree to it means that 10 years from now we are going to have to go through this again.

Mr. BODE. Sir, there were some 34 recommendations from the academy as I recall, and I am going to ask Dr. Harris to assist me in responding to this specific point.

Mr. MACKAY. Then, Dr. Harris, my belligerence does not—I feel very kindly toward you. I want you to know that.

What I want to know is, how could you begin to make the things any less comparable than by one agency deciding to go to a rolling forward way and the other agency deciding not to? Isn't it going to get worse instead of better?

Dr. HARRIS. Let me try to explain it. I am new, as someone else mentioned they were new. Perhaps that will help; maybe it won't.

The Nationwide Food Consumption Survey has more components than just the individual intake survey. The individual intake survey is what we have put on a continuous basis. Our goal is to achieve the rolling average type of data that we would collect over a long-term period. The Nationwide Food Consumption Survey also has a lot of household intake, monitoring how much money you are spending on food, all the food items that come into the house that are more concerned about food supply. Those perhaps don't need to be collected quite so often if we want to follow the nutritional status of the country.

So, I think it is in the separation of these two facets of the Nationwide Food Consumption Survey that the point needs to be made. It seems to me, from listening to Dr. Feinleib, that we are very well coordinated. We certainly do have to spend more time working out the details of the various survey questionnaires, the types of data that are reported, and that sort of thing, but that can be done by the groups that are already in existence.

Our concern is that you are, at least in the way I interpreted the bill and, again, I am brand new and I don't understand Washington very well yet——

Mr. MACKAY. Neither do I.

Dr. HARRIS [continuing] That you are adding a number of people from the outside or could be adding in that we would then have to bring them up to speed on what we were doing and everybody has a different way of going about it. I really think that we are at the point where you are going to see some return on your interest in nutrition monitoring. It takes a long time. I am sorry that it does, but technology is moving very quickly.

Nutrition is a difficult subject. It is not as easy as the nuts and bolts of putting a plane together or something of that nature.

I hope that helps answer the question.

Dr. MASON. I think where the coordination really is paying off between the NFCS and the NHANES III is that we are looking at common nutrient data bases, comparable definitions, similar automated data systems, and in those areas, data now from the two surveys will be as though they were one. They may come in at differing periods of time, but I don't think that we anticipate that changes are going to occur in our population in terms of food consumption or the nutritional status or health status of our people that that is necessarily going to create problems. Where problems would be created is if we weren't making the same definitions, the same coding, and things of this nature, and there we are working very, very closely to make sure that those facets of the two studies are coordinated.

Mr. **MacKay**. So, your view is that you have taken into account these recommendations and that you are in fact moving in that direction.

Dr. **Harris**. Yes, sir.

Dr. **Mason**. Yes.

Dr. **Feinleib**. Yes, sir.

Mr. **MacKay**. I don't have any other questions. I appreciate very much your cooperation. Thank you.

The meeting is adjourned.

[Whereupon, at 5:10 p.m., the subcommittees recessed, to reconvene subject to the call of the Chair.]

APPENDICES

Joint Report on Emergency Food Relief in New York State

by

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April 1985

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(269)

SUMMARY

The results of a census of emergency food relief programs--the food pantries and soup kitchens in New York State, are outlined in this report. The census was conducted from November 1, 1984 to February 28, 1985. The intent of the census was to enumerate and characterize emergency food relief activities to lay the foundation for a system to routinely document changes in the size and characteristics of the population that uses emergency food relief. One of the products of this process is a fairly comprehensive identification and description of emergency food relief programs across the State.

The total number of programs identified was 1212, of which 1020 (84.2%) were food pantries and 192 (15.8%) were soup kitchens. Despite every effort it is likely that this is an underestimate. Food pantries serve 49,888 people a week or almost 200,000 people per month. Soup kitchens serve 90,782 meals per week. Although 53% of the total amount of emergency food relief is provided in New York City, a full 47% of the food relief is given outside the city. Every county in the State provided some food relief. This relief does not include that provided by government public assistance, food stamps or other food programs. There is no indication that the demand for emergency food relief is decreasing--63% of the programs reported an increase (only 5.5% a decrease) in requests for food over the previous year.

The responses from the private sector to this need has been significant. Eighty-nine percent of the programs receive donations from individuals and 44.1% from businesses. Fifty-five percent of the emergency food relief programs that exist today have been started since 1980. Food banks have supported 38% of these programs. Government

ACKNOWLEDGEMENTS

The cooperation of people from across the State both in government and in the private sector that made this work possible is a microcosm of the type of activity that happens every day of the week in every county in the State to provide people with emergency food relief. This report is the product of a great many people's work. The few that are explicitly mentioned here represent still others without whom this would not have been possible.

The contributions of representatives of virtually all the emergency food relief programs and many of those who are supporting their efforts was the foundation for this report. People made time to answer the questionnaire. Many willingly responded to follow-up calls to clarify any confusion. Some volunteered their program records and reports to help us understand their approach. Special mention needs to be made of the assistance given by Patrick Collier of the Empire State Division of the Salvation Army.

The actual census itself represents the combined efforts of staff at the regional public health offices: Joanne Stahl, Mary Jo Parker, John Mason, Bob Kasprzyk, Sue Messenger, Peg Simpson, Sandra Rhoades, Ernie Wagner, and Peg White; staff of the Food and Hunger Hotline in New York City: Shaheen Anam, Linda Johnson, and Deborah Tirado; and staff at Cornell University: Janet Weber, Alisa Braverman, and Beth Conlisk. The design and coordination of the project as a whole has benefited from the advice of David Williamson, Jan Dodds, and Don Walker of the New York State Department of Health, and from Daphne Roe, David Pelletier, and Muriel Brink of Cornell University. David Williamson coordinated the production of the graphics for this report and Marilyn Ward actually made it a reality.

TABLE OF CONTENTS

PAGE

INTRODUCTION.. 3

METHODOLOGY AND DEFINITIONS.. 4

THE EXTENT AND DISTRIBUTION OF EMERGENCY FOOD RELIEF ACTIVITIES IN NEW YORK STATE...... 8

SELECT CHARACTERISTICS OF EMERGENCY FOOD RELIEF ACTIVITIES........... 17

FOOD AND FINANCIAL RESOURCES OF EMERGENCY FOOD RELIEF PROGRAMS....... 21

IMPLICATIONS FOR DECISION MAKING.................................... 25

APPENDIX A: OVERVIEW OF THE EMERGENCY FOOD RELIEF PROJECT FOR NEW YORK STATE

APPENDIX B: SUPPLEMENTARY TABLES

APPENDIX C: THE QUESTIONNAIRES FOR THE TELEPHONE INTERVIEWS

LIST OF TABLES

Table 1: Number and Relative Size of Emergency Food Relief Programs in New York State

Table 2: Distribution of Emergency Food Relief Activities By Public Health Region, Population, and Population Living Below the Poverty Line

Table 3: Reported Changes in the Number of People Served Over The Previous Year (1983 to 1984) by Public Health Region

Table 4: Histories of Programs Present in Winter 1984-85

Table 5: Characteristics of Program Participants by Program Type

Table 6: Times of Increased Requests for Food Relief by Program Type and Public Health Region

Table 7: Sources of Resources and Presence of Resource Constraints on Service by Type of Program

Table 8: Sources of Resources and Presence of Resource Constraints on Service by Public Health Region

Table 9: Emergency Food Relief Activities by Food Bank Region

Appendix A

Table 1: Record Keeping by Program Type

Appendix B

Table 1: Types of Agencies Contacted to Identify Emergency Food Relief Programs

Table 2: Distribution of Emergency Food Relief Operations Across Counties by Public Health Region

Table 3: Rates of Emergency Food Relief Use by Total County Population and Population Living Below the Poverty Line

Table 4: Sources of Resources and Presence of Resource Constraints on Service Across Countries by Public Health Region

LIST OF FIGURES

Figure 1: Distribution of Emergency Food Relief Activities by Public Health Region Region and Borough Within New York City

Figure 2: Rates of Emergency Food Relief Use Per 1000 Population

Figure 3: Reported Changes in the Number of People Who Received Emergency Food Relief Over the Previous Years (1983-1984)

Figure 4: Characteristics of Program Participants by Program Type

Figure 5: Percentage of Programs Receiving Food From a Food Bank

Introduction

Reports about hunger have continued to appear with disturbing frequency around the nation and in New York State. Despite the indications of economic recovery, basic necessities such as food, housing, and clothing are difficult to secure for significant numbers of people. This report documents the prevalence and characteristics of one symptom of this phenomena--the use of emergency food relief programs: food pantries and soup kitchens. Despite the abstractness of a numerical description of this issue, it must be remembered that these numbers represent the activities of real people facing concrete food shortages and real people working to help them.

Emergency food relief use does not represent hunger per se. Nor does it represent physiologically quantifiable undernutrition. What it does represent is people who do not have the resources to shop at a grocery store or the facilities to prepare food for themselves. It represents people who request food. Those who do not ask are not included. Emergency food relief use is a symptom of the degree of vulnerability of the population. It represents the degree to which efforts to address needs by such government assistance programs as Food Stamps, Aid for Dependent Children, and Home Relief are inadequate and must be supplemented by the private sector. It represents charity in both its positive and negative connotations--neighborly caring for those in need, and a situation where access to food is no longer a right. The prevalence of the use of emergency food relief is therefore an expression of considerable concerted caring by New Yorkers as well as the breadth and pervasiveness of need.

This census of emergency food relief programs in New York State was undertaken to lay the groundwork for an ongoing system to document change in the size and characteristics of the population using emergency food relief. The steps in the development of such a system are outlined in

Appendix A. Such a system will allow trends in emergency food relief use to be followed and linked to the formulation of informed responses. It will create a framework within which more in-depth studies of the factors which lead to reliance on emergency food relief could be pursued in relation to the whole issue. This census also arose in part to complement the Supplemental Nutrition Assistance Program (SNAP) efforts for the homeless and destitute. Some of the results can be used to define that program's coverage. If this report contributes to thoughtful considerations of appropriate responses to the need for emergency food relief, it has served its purpose and the wider purpose of nutrition surveillance.

Methodology and Definitions

This census was conducted between November 1, 1984 and February 28, 1985. It was essentially a two stage telephone survey supplemented with some mail back responses. The purpose of the first stage was to develop as comprehensive a list of emergency food relief programs in each county as was possible. To do this at least four or five agencies in each county were contacted with at least one of the agencies being a church or religious group. The types of agencies contacted in this phase of the study are summarized in Table 1 of Appendix B. In New York City, directories from the Food and Hunger Hotline, City Har[illegible], [illegible]m the Emergency Food Assistance Program of the Human Resources Administration, were used to identify programs.

In the second stage of the study, the emergency food relief programs themselves were contacted by telephone to learn about their operations. Many of these calls also expanded and clarified the lists generated in Stage 1 of the survey. Appendix C includes a copy of the questionnaire that was used. As little was known about these programs except that they were a very heterogeneous group of programs, most questions allowed for comments, and much of the information collected was simple descriptive items. The approximately 15 programs who preferred to answer a written questionnaire were sent an adapted version of the telephone questionnaire.

With few exceptions, every attempt was made to contact the individual pantries and kitchens and not a sponsoring or coordinating agency. It was felt that the actual service provider could more accurately describe their program activities. In those cases where a coordinating program was contacted the number of programs has been adjusted to reflect the actual number of individual sites from which emergency food was available in that county. Although the coordinating programs were not contacted for descriptions of individual program operations, in many cases they were contacted in the process of identifying the individual sites or to understand the interrelationships among the sites. In many cases, a single food pantry or soup kitchen represents the coordinated effort of several churches. The number of programs identified in each county represents the number of sites at which food relief was actually provided and thus is an underestimate of the number of groups involved in the provision of that food.

Despite repeated attempts, there were 74 programs (or 6% of the total number of programs contacted) listed in directories which were not contacted either because there was no telephone listing or the number was discontinued, there was no response to the telephone or letter, the contact person was unavailable, or the programs declined to participate (only 5). Two-thirds of these programs were in New York City or the counties adjacent to New York City. Many of these programs may have been discontinued but were still listed in a directory.

In order to ensure that such a telephone survey adequately reached the smaller villages in upstate New York, a mail survey was sent to 196 service units of the Salvation Army. In addition to providing information about their emergency food relief work, the responses to this mini-survey (93 or 48% of the mailing) in some cases expanded the listing generated in Stage 1 and in others confirmed the absence of programs in that area.

The emergency food relief programs are very diverse and as a group very unstructured (although some programs and some areas are quite organized). As a result, a summary of their characteristics will necessarily represent an over simplification of the range of differences present. There were three forms of emergency food relief--the provision of dry or canned food, vouchers for food which could be redeemed at specified grocery stores, or hot meals. In this report food pantry programs include the provision of emergency food relief as dry or canned food and/or vouchers for food; but in some counties these activities were also called food cupboards, lockers, closets, and in some cases, food banks. However, the term food banks, in the context of this report, is reserved for centralized warehouses for food which serve emergency food relief operations but not individuals or families directly. Hot meals were served at soup kitchens either run in conjunction with shelters or independently. As an extensive report on the homelessness in New York State already documents the activities of shelters*, only those shelters which also served non-residents were included. Ninety five percent of the soup kitchens identified in this survey served hot meals independently from the provision of shelter.

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* "Homelessness in New York State", N.Y.S. Department of Social Services, October, 1984

Government sponsored food programs such as School Lunch, congregate or home delivered meals for the elderly (Title IIIC), and the distribution of surplus commodities, were not included in this survey. Food pantries which distributed the government surplus commodities in addition to their other ongoing relief were included, but those which only distributed surplus commodities were not (see Table 7).

Although the primary purpose of this survey was to collect the information necessary to develop an ongoing monitoring system for this population and not to estimate the number of people requesting emergency food relief, estimates of the number of people served by the programs were requested in order to have a measure of the relative sizes of the programs. In many cases, the numbers given were indeed rough estimates and not drawn from formal records. For food pantries, the most common unit of response was families per month (with alternates as persons/month, families/week or families/year). For the soup kitchens the most common unit of response was persons or meals per day. For the purposes of this report an artificial category--'units of service per week', was constructed by multiplying family counts by 4, dividing monthly estimates by 4, and multiplying daily meal counts by the number of days a week the program was offered. Therefore results given as units of service per week cannot be considered as synonymous with persons served per week*, but can be used comparatively to estimate the size or volume of service.

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* One of the tasks in the next stage of this project is to do the studies necessary to develop conversion formulas for meals served/week to people served/week, and to account for duplication in counts among the programs.

The Extent and Distribution of Emergency Food Relief Activities in N.Y.S.

The number and relative sizes of the emergency food relief programs in New York State are outlined in Table 1. The total number of programs identified was 1206*, and it is very probable that this figure is an underestimate. The vast majority of these programs are food pantries--84.2%. There was, however, an almost 10 fold difference in the mean size of operations between pantries (an average of 49 individuals/week) and kitchens (an average of 475 meals/week), so that the kitchens provide almost twice the total estimated quantity of service as the pantries. On a weekly basis, 141,576 units of service are provided by emergency food relief programs in New York State. This represents 7.4 million units of service in a year.

The results for New York City differ markedly from the rest of the State. Emergency food relief activities in New York City account for 53% of the total quantity of service provided in the State, although they only account for 21% of the total number of programs. Though the New York City programs and the need they address may be larger than those upstate**, the number and quantity of service provided upstate means that any discussion of emergency food relief cannot be restricted to the New York City area.

The distribution of emergency food relief activities about the state is graphically presented in Figure 1 and tabulated in Table 2. County level results are given in Table 1 and 2 in Appendix B. The largest concentration of food relief work is in Manhattan (32.1% of the total

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* During the final preparation of this report five more pantries and one soup kitchen were identified in New York City.

**The degree (if any) to which this result, particularly for the food pantries, represents genuinely larger programs or simply an inadequate identification of the smaller programs will be assessed in the second stage of this project (see Appendix A).

Table 1: NUMBER AND RELATIVE SIZE OF EMERGENCY FOOD RELIEF PROGRAMS IN NEW YORK STATE

	New York City	Upstate	New York State
SOUP KITCHENS			
Number of programs	106	85	191
Total number of meals/week	56702	34080	90782
FOOD PANTRIES			
Number of programs	151	864	1015
Total number of people/week	17612[*]	32276[+]	49888
EMERGENCY FOOD RELIEF PROGRAMS			
Total number of programs	257	949	1206
Total units of service/week	75219	66357	141576

[*] 6 pantries had missing values for units of service

[+] 10 pantries had missing values for units of service

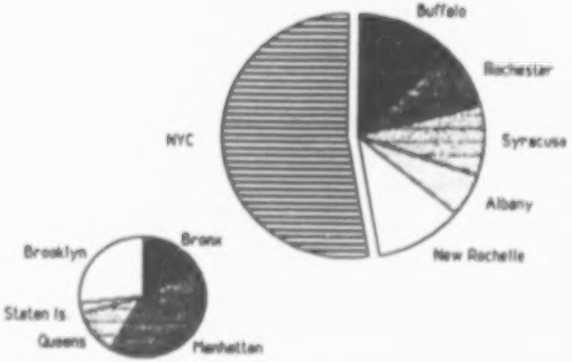


FIGURE 1: DISTRIBUTION OF EMERGENCY FOOD RELIEF ACTIVITIES BY PUBLIC HEALTH REGION AND BOROUGH WITHIN NEW YORK CITY

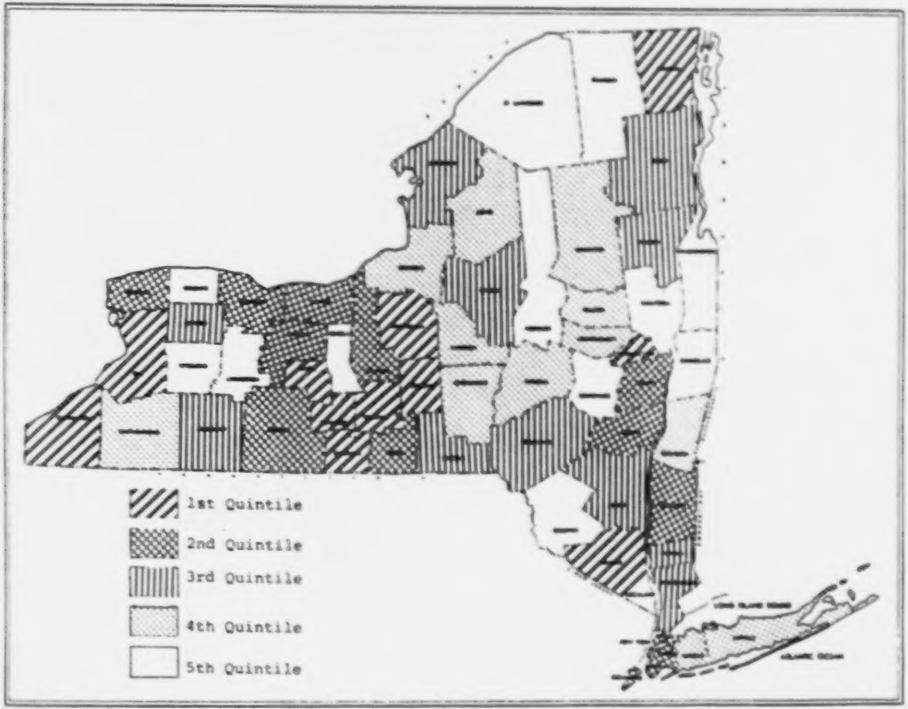
Table 2: DISTRIBUTION OF EMERGENCY FOOD RELIEF ACTIVITIES BY PUBLIC HEALTH REGION, POPULATION, AND POPULATION LIVING BELOW THE POVERTY LINE*

Public Health Region	Programs		Units of Service/Week		Units of Service/Week per 1,000 Population+	Units of Service/Week per 100 People Below Poverty Line**
	Number	%	Number	%		
1. Buffalo	169	14.1	18192	12.9	10.9	10.6
2. Rochester	108	9.0	11314	8.0	9.3	10.4
3. Syracuse	204	17.0	12951	9.2	7.5	5.9
4. Albany	183	15.2	8088	5.7	5.8	5.6
5. New Rochelle	285	23.7	15812	11.2	3.4	5.4
6. New York City	257	21.0	75219	53.1	10.7	5.4
NEW YORK STATE TOTAL	1206	100%	141576	100%	8.0	6.2

* This information is presented by county in Table 2 & 3 in Appendix B.
+ 1985 population estimates by county: 1983/84 N.Y.S. Statistical Yearbook, 10th ed.
**U.S. Bureau of the Census, "1980 Census of the Population"

units of service) followed by Brooklyn (9.9%), Bronx (7.8%), Buffalo (7.6%), Rochester (4.6%) and Syracuse (4.5%). Two-thirds of the total weekly food relief activities occur in these areas. However, when the units of service per week are expressed in relation to the population in a county and to the number of people living below the poverty line in a county, another picture is created (see Figure 2). In this case the Buffalo and Rochester public health regions are providing about the same amount of food relief per unit of population as is the New York City area, and in terms of units of service per population living below the poverty line they are in fact providing twice as much service.

Although this survey represents a snap-shot of emergency food relief activity in New York State in the winter of 1984/85, some information about changes in that activity was collected. Reported changes in the number of people served over the previous year are summarized for New York State in Figure 3 and broken down by public health region in Table 3. Sixty-three percent of the programs reported an increase in the number of requests for emergency food relief and only 5.5% have experienced a decrease. The starting dates for the programs operating in 1984/85 are summarized in Table 4. Although these results cannot be interpreted as an absolute increase in the number of programs over these years as the attrition rate of these programs is not known, 55% of the currently operating programs have begun since 1980. There is a stable core of programs--15% have operated for more than 10 years, but the majority of programs present today have started in response to events since 1980.


1st Quintile
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3rd Quintile
4th Quintile
5th Quintile

FIGURE 2: RATES OF EMERGENCY FOOD RELIEF USE PER 1000 POPULATION

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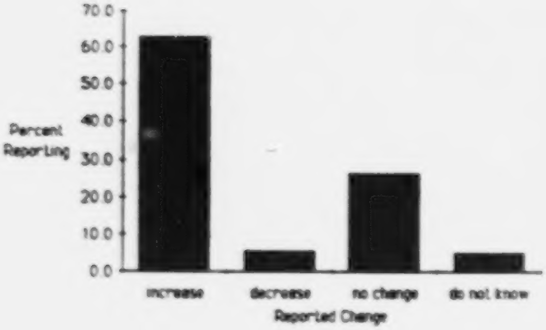

FIGURE 3: REPORTED CHANGES IN THE NUMBER OF PEOPLE WHO RECEIVED EMERGENCY FOOD RELIEF OVER THE PREVIOUS YEAR (1983-1984)

Table 3: REPORTED CHANGES IN THE NUMBER OF PEOPLE SERVED OVER THE PREVIOUS YEAR (1983 to 1984) BY PUBLIC HEALTH REGION

Public Health Region+	Number of Programs	Percentage Reported Change			
		Increase	No Change	Decrease	Don't Know*
1: Buffalo	162	69.1	18.5	5.6	6.8
2: Rochester	106	65.1	20.8	8.5	5.7
3: Syracuse	174	55.6	28.4	4.7	11.2
4: Albany	180	68.3	22.2	7.2	2.2
5: New Rochelle	274	57.7	29.6	6.2	6.6
6: New York City	225	66.2	31.1	1.8	0.9
TOTALS	1121	62.9	26.3	5.5	5.2

+ For county composition of public health regions see Table 2 in Appendix B.

* Includes those programs operating for less than one year.

Table 4: HISTORIES OF PROGRAMS PRESENT* IN WINTER 1984/85

(N = 1142)

Years in Operation	Starting Year	Number of Programs	Percentage of Total Programs
≤ 1	1983/1984	199	17.4
2	1982	177	15.5
3	1981	164	14.4
4	1980	94	8.2
5	1979	103	9.0
6	1978	44	3.9
7	1977	38	3.3
8	1976	52	4.6
9	1975	23	2.0
10	1974	71	6.2
11-15	1969/1973	65	5.7
16-20	1964/1968	29	2.5
21-25	1959/1963	17	1.5
26-50	1934/1958	22	1.9
51-75	1919/1933	18	1.6
76-99+	1894+/1918	26	2.3

*This table includes ONLY those programs present in the winter of 1984/85. It does not include any information about the number of programs which have closed. No inferences can therefore be made about increases in the number of programs over these years.

Select Characteristics of Emergency Food Relief Activities

Food pantries and soup kitchens differ in the people whom they serve (Figure 4 and Table 5)*. Almost 80% of pantries said that more than three-quarters of their participants were families, while almost 40% of the soup kitchens said that less than 10% of their participants were families. Very few pantries have a significant proportion of their participants as elderly. Although some of the soup kitchens have a greater proportion of elderly participants than the pantries, the elderly are not a significant proportion of the participants at very many soup kitchens either. Women constitute a larger proportion of the participants at more pantries than soup kitchens. However, 58% of the soup kitchens did say that women constitute a quarter to a half of their participants.

Seventy-five percent of the emergency food relief programs described a pattern to the variations in requests for food relief that they received, although more soup kitchens (40%) than pantries (23%) did not think that there was a pattern (see Table 6). The overwhelming pattern that was noted was an increase in requests for assistance at the end of the month or when the checks (food stamps and/or public assistance) ran out. This was slightly more common among the pantries than the soup kitchens, and more common outside of New York City. More of the programs in New York City experienced a constant level of requests for assistance or at least saw no pattern to variations in the number of requests they received. These figures are based on volunteered descriptions of the pattern (or lack of pattern) experienced and therefore a low percentage of responses for a particular category does not necessarily mean a negative response to that item.

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*Information collected in Stage 2 of this project will provide a much more detailed profile of the age and sex characteristics of pantry and kitchen users.

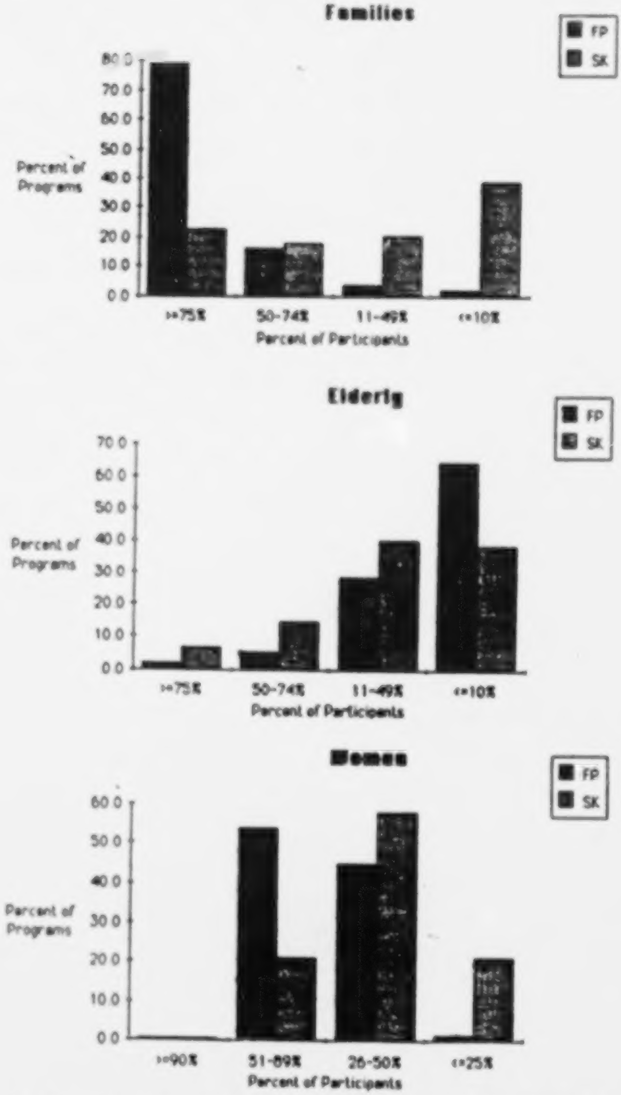

FIGURE 4: CHARACTERISTICS OF PROGRAM PARTICIPANTS BY PROGRAM TYPE

Table 5: CHARACTERISTICS OF PROGRAM PARTICIPANTS BY PROGRAM TYPE

Proportion of Participants Who Are:	Precentage of Programs Food Pantries N = 969	 Soup Kitchens N = 191
1. FAMILIES		
≥ 75%	79.1	22.8
50-74%	16.0	17.9
11-49%	3.8	20.4
≤ 10%	2.2	38.9
(missing values)	(35)	(29)
2. ELDERLY		
≥ 75%	1.8	6.7
50-74%	5.1	14.6
11-49%	28.5	40.2
≤ 10%	64.6	38.4
(missing values)	(86)	(27)
3. WOMEN		
≥ 90%	0.4	0.6
51-89%	53.7	20.7
26-50%	44.7	58.0
≤ 25%	1.3	20.7
(missing values)	(108)	(22)

Table 6: TIMES OF INCREASED REQUESTS FOR FOOD RELIEF BY PROGRAM TYPE AND PUBLIC HEALTH REGION

Times of Increased Requests	Across the State N = 1163	PERCENTAGE OF RESPONSES* By Program Type: FP N = 994	SK N = 158	By Public Health Region: Buffalo N = 175	Rochester N = 113	Syracuse N = 183	Albany N = 189	New Rochelle N = 287	N.Y.C. N = 216
Beginning of month	4.0	4.2	3.2	3.9	8.0	2.7	2.6	4.5	3.7
End of month or when checks run out	58.5⁺	60.1	51.9	73.0	62.8	60.7	72.0	54.0	35.2
Middle of month	4.8	5.0	3.8	7.9	5.3	3.8	6.4	4.8	1.4
End of week	0.7	0.8	--	--	--	0.6	--	1.0	1.9
Cold weather or holidays	7.1	7.0	7.6	3.4	4.4	6.0	3.2	12.8	8.3
No variation	24.9	22.6	39.9	10.1	19.5	26.2	15.9	22.2	49.5

*Responses to an open-ended question with programs providing one or two responses each.

⁺When considered as a % of the total number of programs (versus the total number of responses) 65.9% of the programs mentioned the end of the month or when the checks run out.

Food and Financial Resources of Emergency Food Relief Programs

Emergency food relief programs have multiple sources of food and funds (see Table 7). By far the most common source of support is donations from individuals. Donations from businesses, and from the government are a more common source of support for soup kitchens than pantries. They are also more common sources of support for the larger programs than the smaller programs. Almost 40% of programs experienced some constraint in their service because of inadequate resources. More of the pantries experienced resource constraints on their service than soup kitchens.

Differences across the state in sources of food and funds and in resource constraints are outlined in Table 8 (equivalent figures by county are given in Table 4 in Appendix B). Fewer programs in New York City than in upstate counties received donations from individuals, and more programs received government financial support and surplus commodities. More programs in the western regions of the State received donations from businesses. Only a small proportion of the programs in the Rochester, Syracuse and Albany public health regions reported receiving government financial support for their programs. More programs in the Buffalo, New Rochelle and New York City areas experienced resource constraints on their services.

A component of the Supplemental Nutrition Assistance Program (SNAP) that was targeted to the homeless and destitute involved the distribution of funds to six upstate food banks and to the Greater New York Fund for New York City. The emergency food relief activities in each of these regions is summarized in Table 9. There are significant differences between the regions both in the number of programs in the region and in

Table 7: SOURCES OF RESOURCES AND PRESENCE OF RESOURCE CONSTRAINTS ON SERVICE BY TYPE OF PROGRAM++

Sources of Food & Funds	PERCENTAGE OF PROGRAMS*		
	Food Pantries N = 928	Soup Kitchens N = 189	New York State N = 1138
1. Donations from individuals	90.6	81.0	88.9
2. Donations from businesses	41.2	56.6	44.1
3. Government surplus commodities	45.3	57.1	47.1
4. Food banks	36.6	46.0	38.0
5. Churches**	50.0	47.7	35.6
6. Civic, service or community groups**	33.3	37.7	28.9
7. Schools**	2.9	8.0	5.7
8. Government grants	20.3	35.9	22.1
+ Experience of resource constraints on service	40.8	30.6	39.2

* These results are summarized from several questions and therefore the number of programs responding to each question varied.

**These were the most common responses to an open-ended question about sources of food other than 1-4. The percentages in this case are expressed in terms of the total responses received to this question. The percentage for churches is probably an underestimate as many of the donations from individuals were channeled through churches and may or may not have been considered as a distinct source of food.

+ This item was considered as a positive response to the question: "Is the number of people you serve limited by the amount of food or funds you have (if you had more food would you serve more people)?"

++This information is presented by county and public health regions in Table 4 in Appendix B.

Table 8: SOURCES OF RESOURCES AND PRESENCE OF RESOURCE CONSTRAINTS ON SERVICE BY PUBLIC HEALTH REGION++

		PERCENTAGE OF PROGRAMS						
PUBLIC HEALTH REGION	(N)+	A) RECEIVING FOOD/FUNDS FROM:					B) WITH RESOURCE CONSTRAINTS ON SERVICE**	
		Individuals	Businesses	Government		Food Bank	%	(N)+
				Food*	Funds			
1. Buffalo	159	93.1	59.8	39.6	27.1	46.5	45.1	(157)
2. Rochester	106	88.7	51.9	50.9	10.9	61.3	21.7	(102)
3. Syracuse	179	89.4	37.4	34.6	19.5	24.6	24.4	(172)
4. Albany	181	95.6	44.2	49.7	12.0	38.1	37.2	(181)
5. New Rochelle	268	95.2	37.3	44.8	23.8	31.0	42.6	(277)
6. New York City	245	74.3	42.9	60.0	35.6	39.6	51.7	(232)
N.Y.S. TOTAL	1138	88.9	44.1	47.1	22.1	38.0	39.2	(1139)

* Government surplus commodities

+ (N) is the number of programs which responded to that question. The percentages of programs listed as recipients of government funds in some cases are based on a slightly different N as the results were taken from a separate question.

**This item was considered as the percentage of programs which responded positively to the question: "Is the number of people you serve limited by the amount of food or funds you have (if you had more food would you serve more people)?"

++This information is presented by county in Table 4 in Appendix B.

Table 9: EMERGENCY FOOD RELIEF ACTIVITIES BY FOOD BANK REGION

Food Bank Region*	Number of Programs				Units of Service/Week			Reported Receiving Food from a Bank		
	FP	SK	Total	%	Number	%	(m/v)	Number	%	(m/v)
Western N.Y.	124	19	143	11.9	17589	12.4	(3)	69	50.4	(7)
Genesee	92	10	102	8.5	9105	6.4	(2)	48	48.0	(5)
Southern Tier	76	8	84	7.0	5526	3.9	(1)	41	56.9	(4)
Syracuse	138	14	152	12.7	10237	7.2	(2)	25	18.5	(5)
Northeastern N.Y.	124	15	139	19.9	10619	7.5	(1)	83	36.3	(11)
Long Island	150	7	157	13.1	6283	4.5	(1)	66	42.9	(3)
No Known Food Bank	60	12	72	6.0	6998	5.0	(1)	3	4.6	(6)
New York City	146	106	252	21.0	75005	53.1	(6)	97	39.6	(2)

FP = Food Pantry; SK = Soup Kitchen

(m/v) = number of programs missing a value for this variable

*Food Bank Region — Counties+

Western N .Y. = Niagara, Erie, Chautauqua, Cattaraugus

Genesee = Orleans, Genesee, Wyoming, Allegheny, Monroe, Wayne, Livingston, Ontario, Yates, Seneca

Southern Tier = Steuben, Schuyler, Chemung, Tompkins, Tioga, Broome

Syracuse = St. Lawrence, Jefferson, Lewis, Oswego, Cayuga, Onondaga, Oneida, Herkimer, Madison, Chenango, Cortland

Northeastern N.Y. = Franklin, Clinton, Essex, Hamilton, Fulton, Warren, Washington, Saratoga, Montgomery, Otsego, Schoharie, Albany, Schenectady, Rensselaer, Delaware, Greene, Columbia, Ulster, Dutchess

Long Island = Nassau, Suffolk

No Known Food Bank = Sullivan, Orange, Putnam, Rockland, Westchester

New York City = Bronx, Manhattan, Queens, Staten Island, Brooklyn

+These results are presented by county in Table 4, Appendix B.

the total units of service provided by those programs. Six percent of the programs providing 5% of the total weekly units of service are not currently within a food bank region. The food banks also vary in the extent to which they supply food to the programs in their regions (see Figure 5)*. This is not surprising as the food bank in Syracuse is relatively new and much of the region for both the Syracuse and Northeastern New York food banks had not been served by these food banks before. This differential coverage is particularly of interest in terms of the potential coverage of the Upstate SNAP funds for the homeless and destitute for the 1984/85 year**. In that regard, it is encouraging that the upstate region providing the largest weekly level of service, Western New York, also had the most programs receiving food from a food bank.

Implications for Decision-Making

This census of emergency food relief programs in New York State describes a large and growing use of emergency food relief in this State. Every month 200,000 people receive food relief from food pantries, and 360,000 hot meals are served at soup kitchens throughout the state. Although 53% of the total amount of emergency food relief is provided in New York City, a full 47% of the food relief is given outside of the city. Every county in the state provides some emergency food relief. This relief does not include that provided by government public assistance, food stamps or other food programs. There is no indication that the

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* Some respondents may not have answered in terms of the particular food banks defined as such in this project. These figures must therefore only be considered as estimates of food bank coverage.

**The SNAP funds for New York City were distributed by the Greater New York Fund which also handles the FEMA grants. The figure for government funds in NYC is probably a closer estimate of SNAP coverage within the city (35.6%) than the food bank figure.

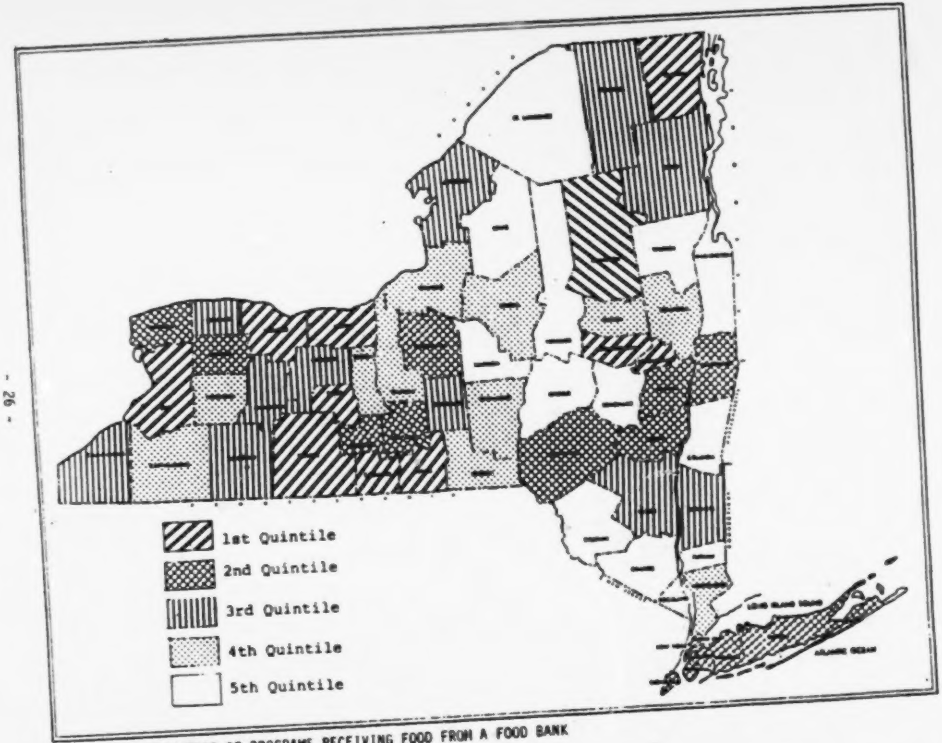
1st Quintile
2nd Quintile
3rd Quintile
4th Quintile
5th Quintile

FIGURE 5· PERCENTAGE OF PROGRAMS RECEIVING FOOD FROM A FOOD BANK demand for emergency food relief is decreasing. In fact, 63% of the programs have experienced an increase in requests for food in the previous year.

Some caution must be exercised in interpreting these figures as a measure of the extent of need for food assistance. These figures must be considered an underestimate of need as 40% of programs reported resource constraints on their service; 48% of the pantries restrict the number of times in a year a pantry can be used by a family*; and only those who asked for and received food relief are included in this figure. Those who might need food but did not ask for it at a food pantry or soup kitchen were not included. However, these figures interpreted as partial indicators of need, do describe a significant and widely disbursed need for emergency food relief among a significant portion of the New York State population.

The responses from the private sector to this need--by individuals, businesses, and community groups, has been significant. Fifty-five percent of the emergency food relief programs that exist today have been started since 1980. However, assuming a similar proportion of need for food relief among the State's population as a whole or at least the population living below the poverty line, there has been a differential response to this need across the counties.

Appropriate government response to this need, both to support private emergency food relief efforts and to halt the increase in and actually reduce the overall need for emergency food relief in the first place, needs serious debate. At a minimum, the following actions should be considered:

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*5.7% of pantries restrict use to 1 time per year; 4.6% to 2 times/year; 9.0% to 3 times/year; 5.3% to 4 times/year; 9.2% to once per month; and smaller proportions for other cut-off times.

1. Government surplus food commodities, federal FEMA grants, State SNAP funds, and other local government funds add to the resources critical for ongoing food relief efforts. However, the network is loosely structured and does not stretch into all areas of the state with equal strength. Attention must be given to the development and support of the resource channels--the programs themselves, and not just to the level of resources available. This is true for the food banks, as well as individual programs, and particularly if the banks continue to be the conduit for SNAP funds.

2. Targeting of support funds must be based on estimates of need. Whether figures such as are included in this report or some combination of these figures with other demographic and socio-economic indicators of potential need are appropriate, needs careful analysis.

3. The government already has in place programs to respond to the financial, food, and housing needs of people. The presence of such widespread use of emergency food relief suggests that the coverage and adequacy of these programs needs to be assessed on an ongoing basis and strengthened in a responsive timely fashion.

4. A system to monitor trends in requests for emergency food relief is needed, not only to indicate changes in the absolute amount of emergency food relief requested or in the location of need, but also to assess the effects of any changes in public assistance policy or economic growth or decline.

5. Further study of the combinations of factors that lead to the need for emergency food relief is essential for a thoughtful analysis of

the range of possible responses to address both the short term and the long term implications and causes of this phenomena.

The demand for emergency food relief is not an isolated problem of a few counties or cities. Rather it is a state-wide problem affecting a large number of people. This documentation of the reliance on emergency food relief must now be linked in a timely fashion with decisions to address the social and financial vulnerability of a significant portion of the population of New York State.

APPENDIX A

OVERVIEW OF THE EMERGENCY FOOD RELIEF SURVEILLANCE PROJECT FOR NEW YORK STATE

The overall purpose of the nutrition surveillance activities in the emergency food relief project is to develop an ongoing information system to support policy development, program planning, and advocacy efforts for the people who do not have the resources to obtain sufficient food to meet their needs. As a pragmatic starting point, the focus of attention has been on the people who use emergency food relief programs although they represent only one portion of the total group of interest.

The emergency food relief surveillance project has three stages:

Stage 1: The enumeration and characterization of emergency food relief programs.

Stage 2: The establishment of a mechanism to routinely monitor the size, age and sex characteristics of the population which uses emergency food relief programs.

Stage 3: Sub-studies to extend understanding of the combination of factors which lead to the use of emergency food relief programs in order to inform program planning and advocacy.

Stage 1 is essentially completed with the final report due for release in April/May; Stage 2 is to be done from April to August 1985, and Stage 3 is projected to begin in the fall of 1985.

Stage 2: The Establishment of the Routine Monitoring System

The routine monitoring system is conceptualized as a centralized telephone survey of a representative sample of emergency food relief programs in New York State. The survey will be done quarterly for food pantries and monthly for soup kitchens. The sample of programs will be chosen to generate a description of emergency food relief participants representative at the level of public health regions and the boroughs of Bronx, Manhattan, Brooklyn, and Staten Island and Queens combined. To ensure equivalent and consistent timing for the survey across the State and rapid processing and dissemination of the results, the actual telephoning will be done in Albany (or Cornell until Albany personnel are available). Local problem-solving and supplementary on the ground studies will be done by regional public health nutritionists and groups which support the emergency food relief programs.

Tasks Necessary for the Establishment of this System

1. The selection of a representative sample of emergency food relief programs.

   This task is underway now that Stage 1 results are available. The projected date of completion is April 5. A sample which will estimate the mean units of service with a ± 10% error (95% confidence interval) has been drawn. These estimates and level of precision obtain separately for each public health region and borough in New York City, and requires 97 soup kitchens (51.3% of all soup kitchens) and 278 food pantries (29.1% of all food pantries) in the total sample.

2. The development of telephone protocols for a) soup kitchens, and; b) food pantries.

   The information which will be requested from the soup kitchens and food pantries quarterly is summarized on the next page. The intent is to collect similar information from each of the programs, but not to attempt to have the programs have identical record-keeping systems. Indirect evidence of the feasibility of this approach was

This is the type of information to be collected from the emergency food relief programs (EFRP). It is not the actual format in which the information will be requested.

THE INFORMATION TO BE REQUESTED FROM SOUP KITCHENS-MONTHLY

1. Number of meals served per day.
2. Number of people turned away per day (unable to serve).
3. Frequency of experiences of any problems obtaining enough food, money, volunteers, transportation.
4. Any new EFRP opening or old sites closing.

THE INFORMATION TO BE REQUESTED FROM FOOD PANTRIES--QUARTERLY

1. Total number of individuals served per month.

   Of those participants: A) the number of families served per month
   the number of single adults served per month
   B) the number of children
   (if known: number of infants (≤ 1 year old)
   number of preschoolers (1-5)
   number of school age (6-16)
   the number of adults
   the number of seniors (≥ 60 years)
   C) if known: the number of people served more than once in the month.

2. Number of people turned away per month (unable to serve).
3. Frequency of experiences of any problems in obtaining enough food, money, volunteers.
4. Any changes to their policies of:

   a) meals given per family or person
   b) vouchers given per family or person
   c) number of times a person can use the program
   d) type of person eligible.

   The program's general policy on these issues will be outlined from the State 1 interview and checked at the initial contact with the program. The telephone questions will then only be about changes in those policies.

given in response to a question about record keeping in the initial census of the program (see Table 1). The telephone protocols will be pre-tested in April and refined on the basis of the first quarter's experience.

3. The development of interest in and knowledgeable support of the programs for participation in this project.

   The programs in the sample will be contacted by mail and/or person to elicit their interest in and informed consent for participation in this project. A common project description with the appropriate telephone protocol and consent form will be the focus of this initial contact. Programs in the urban areas will be contacted in person, and those in the rural areas will be contacted by mail and telephone with an optional personal contact. Local workshops might be organized to facilitate this process. Those programs that indicated a hesitancy in sharing their program records in the Stage 1 interviews will be contacted in person. The project as a whole will be discussed with the appropriate regional staff of the Salvation Army, Catholic Charities and other regional/district supervisory or coordinating agencies.

4. The implementation of the telephone survey.

   The objective is to begin the telephone survey of soup kitchens the first week in June with information collected for the month of May. Calls will be made the beginning of each month thereafter. Food and food pantries' calls will be made in early July with information collected for the month of June, and early August for the month of July. Any problems in the information can then be identified and followed up locally. The telephone calls will be placed from Cornell,

Table 1: RECORD KEEPING BY PROGRAM TYPES

Record Keeping Habits	Food Pantries N = 950	Percentage of Soup Kitchens N = 183
Do not keep records	15.8	15.9
Keep records and are willing to share them	82.9	82.5
Keep records and are not willing to share them	0.5	1.1
Keep records and might be willing to share them	0.7	0.6
(missing values)	(19)	(8)
Have no difficulty keeping records	88.7	87.1
(missing values)	(201)	(44)

but personal contact with the programs which experience difficulties will be an essential aspect of this task.

5. The implementation of four sub-studies to supplement the basic telephone system.

   A. The determination of the extent of use of multiple sources of emergency food relief.

   This task has two components: 1) a study to determine the extent of the use of multiple food pantries and/or pantries and soup kitchens; 2) a study to determine the frequency of the use of soup kitchens.

   Both components will provide information to allow statements about the total number of people using emergency food relief programs rather than simply the number of services these programs provide. The first component will entail an anonymous mailback postcard for food pantry users to be included with their food package. Information about the frequency of use of pantries and soup kitchens will be requested on the postcard. The second component will require asking a sample of soup kitchen participants (at a sample of programs) two or three questions. This component potentially can be done in conjunction with the sub-study to describe the age/sex profile of soup kitchen participants.

   B. A description of the age/sex profile of soup kitchen participants.

   This study will involve the simple observation and recording the approximate ages and sex of participants at a sample of soup kitchens.

C. A neighborhood emergency food relief program census (New York City only).

This study will involve the identification and description of all sources of emergency food relief in a geographically defined neighborhood of each borough (Staten Island and Queens combined). This information will validate the formula for generalizing from the telephone survey results to the whole of New York City.

APPENDIX B

SUPPLEMENTARY TABLES

TABLE 1: TYPES OF AGENCIES CONTACTED TO IDENTIFY EMERGENCY FOOD RELIEF PROGRAMS

(Stage 1 of the Survey)

Agency	Number of counties in which the agency was contacted (Total # counties = 57)
Department of Social Services	48
Cooperative Extension	43
*Community Action or Economic Opportunity Programs	39
Special Supplemental Program for Women, Infants and Children (WIC)	33
*Salvation Army Service Units	34
*Salvation Army Core Units	25
*Catholic Charities or Office of Social Ministry or Catholic Family Services	28
*Other Church Affiliated Groups	14
Other Non-Religious Coordinating Groups	16
Regional Food Banks	16
Local Health Departments	5
United Way	4
Red Cross	4

*Many of these agencies also provided emergency food relief and therefore participated in Stage 2 of this survey.

Table 2: DISTRIBUTION OF EMERGENCY FOOD RELIEF OPERATIONS ACROSS COUNTIES BY PUBLIC HEALTH REGION

County	Number of Programs				Units of Service/Week		
	FP	SK	Total	Percentage	Number	(m/v)	Percentage
REGION 1							
Niagara	21	5	26	2.2	2066	(1)	1.46
Orleans	4	-	4	0.3	72		0.05
Erie	65	10	75	6.2	10752		7.61
Genesee	8	-	8	0.7	229		0.16
Wyoming	11	-	11	0.9	64	(1)	0.05
Chautauqua	22	3	25	2.1	4513	(2)	3.19
Cattaraugus	16	1	17	1.4	258		0.18
Allegheny	3	-	3	0.3	238		0.17
Subtotal	150	19	169	14.1%	18192		12.87%
REGION 2							
Monroe	22	8	30	2.5	6455	(1)	4.57
Wayne	17	1	18	1.5	779		0.55
Livingston	7	-	7	0.6	60		0.04
Ontario	11	1	12	1.0	775		0.55
Steuben	16	-	16	1.3	701		0.50
Yates	3	-	3	0.2	409		0.29
Seneca	6	-	6	0.5	24		0.02
Schuyler	2	-	2	0.2	208		0.15
Chemung	12	2	14	1.2	1903	(1)	1.35
Subtotal	96	12	108	9.0%	11314		8.00%
REGION 3							
St Lawrence	18	-	18	1.5	196		0.14
Jefferson	12	1	13	1.1	481	(1)	0.34
Lewis	4	-	4	0.3	63	(1)	0.05
Oswego	9	1	10	0.8	301		0.21
Cayuga	9	2	11	0.9	675		0.48
Onondaga	33	6	39	3.3	6302		4.46
Oneida	14*	3	17	1.4	980		0.69
Herkimer	9	-	9	0.8	98		0.07
Madison	15	-	15	1.3	198		0.14
Chenango	12	-	12	1.0	115		0.08
Cortland	3	1	4	0.3	828		0.59
Tompkins	13	2	15	1.3	1562		1.11
Tioga	13	1	14	1.2	380		0.27
Broome	20	3	23	1.9	772		0.55
Subtotal	184	20	204	17.0%	12951		9.16%

*underestimate

County	Number of Programs				Units of Service/Week		
	FP	SK	Total	Percentage	Number	(m/v)	Percentage
REGION 4							
Franklin	6	-	6	0.5	73		0.05
Clinton	12	1	13	1.1	947		0.67
Essex	4	-	4	0.3	154		0.11
Hamilton	2	-	2	0.2	15		0.01
Fulton	6	-	6	0.5	137		0.10
Warren	11	-	11	0.9	175		0.12
Washington	5	-	5	0.4	45		0.03
Saratoga	21	-	21	1.8	298		0.21
Montgomery	4	-	4	0.3	132		0.09
Otsego	9	-	9	0.8	129		0.09
Schoharie	10	-	10	0.8	48		0.03
Albany	33	6	39	3.3	2567		1.82
Schenectady	5	2	7	0.6	1490		1.05
Rensselaer	13	2	15	1.3	1276		0.90
Delaware	12	-	12	1.0	185		0.13
Greene	11	-	11	0.9	253		0.18
Columbia	8	-	8	0.7	164		0.12
Subtotal	172	11	183	15.2%	8088		5.72%
REGION 5							
Sullivan	5	-	5	0.4	132		0.09
Ulster	22	3	25	2.1	952		0.67
Dutchess	30	1	31	2.6	1579	(1)	1.12
Orange	8	5	13	1.1	2596		1.84
Putnam	7	-	7	0.6	269		0.19
Rockland	11	1	12	1.0	254	(1)	0.18
Westchester	29	6	35	2.9	3747		2.65
Nassau	45	2	47	3.9	3184		2.25
Suffolk	105	5	110	9.2	3099	(1)	2.19
Subtotal	262	23	285	23.7%	15812		11.19%
REGION 6							
Bronx	32	13	45	3.7	11125	(1)	7.82
Manhattan	41	65	106	8.6	45534	(1)	32.12
Queens	24	6	30	2.5	3840	(1)	2.72
Staten Island	4	3	7	0.6	693		0.49
Brooklyn	50	19	69	5.7	14032	(1)	9.91
Subtotal	151	106	257	21.0%	75219		53.06%
N.Y.S. TOTAL	1015	191	1206	100.0%	141576		100.0%

FP = Food Pantry; SK = Soup Kitchen; (m/v) = number of programs missing a value for units of service

Table 3: RATES OF EMERGENCY FOOD RELIEF USE BY TOTAL COUNTY POPULATION AND POPULATION BELOW THE POVERTY LINE

County	Units of Service/Week per 1,000 Population*	Units of Service/Week per 100 People Below the Poverty Line⁺
REGION 1		
Niagara	9.14	10.5
Orleans	1.85	1.9
Erie	10.66	10.2
Genesee	3.82	4.3
Wyoming	1.56	1.8
Chautauqua	30.70	28.36
Cattaraugus	2.93	2.31
Allegheny	4.41	3.39
Subtotal	10.9	10.6
REGION 2		
Monroe	9.16	10.76
Wayne	8.85	10.70
Livingston	1.02	1.13
Ontario	8.25	11.45
Steuben	4.01	5.91
Yates	18.59	13.66
Seneca	0.67	0.89
Schuyler	11.56	11.35
Chemung	19.62	18.38
Subtotal	9.3	10.4
REGION 3		
St. Lawrence	1.70	1.09
Jefferson	5.41	4.03
Lewis	2.42	1.94
Oswego	2.53	2.26
Cayuga	8.23	7.81
Onondaga	13.55	14.64
Oneida	3.97	3.67
Herkimer	1.46	1.15
Madison	2.96	2.63
Chenango	2.21	1.92
Cortland	16.90	12.45
Tompkins	17.36	12.16
Tioga	7.31	8.85
Broome	3.68	4.27
Subtotal	7.5	6.9

County	Units of Service/Week per 1,000 Population*	Units of Service/Week per 100 People Below the Poverty Line⁺
REGION 4		
Franklin	1.59	1.01
Clinton	11.41	9.72
Essex	4.16	3.24
Hamilton	3.00	2.31
Fulton	2.45	2.14
Warren	3.02	2.57
Washington	0.80	0.69
Saratoga	1.80	2.47
Montgomery	2.49	2.38
Otsego	2.15	1.57
Schoharie	1.50	1.32
Albany	9.01	9.18
Schenectady	10.14	11.70
Rensselaer	8.34	7.82
Delaware	3.85	2.94
Greene	5.75	5.43
Columbia	2.52	2.69
Subtotal	5.8	5.6
REGION 5		
Sullivan	1.86	1.40
Ulster	5.74	5.58
Dutchess	6.10	9.26
Orange	9.34	10.44
Putnam	3.13	8.49
Rockland	0.93	1.62
Westchester	4.33	6.26
Nassau	2.46	5.12
Suffolk	2.31	3.77
Subtotal	3.4	5.4
REGION 6		
Bronx	9.87	3.53
Manhattan	31.82	14.90
Queens	2.04	1.81
Staten Island	1.82	2.44
Brooklyn	6.43	2.65
Subtotal	10.7	5.4
N.Y.S. TOTAL	8.02	6.16

*1985 population estimates by county: 1983/84 N.Y.S. Statistical Yearbook, 10th edition.
⁺U.S. Bureau of the Census, "1980 Census of the Population".

Table 4: SOURCES OF RESOURCES AND PRESENCE OF RESOURCE CONSTRAINTS ON SERVICE ACROSS COUNTIES BY PUBLIC HEALTH REGION

		PERCENTAGE OF PROGRAMS						
	(N)*	A) RECEIVING FOOD/FUNDS FROM:					B) WITH RESOURCE CONSTRAINTS ON SERVICE**	
		Individuals	Businesses	Government		Food Bank	%	(N)*
				Food*	Funds			
REGION 1								
Niagara	(26)	96.2	61.5	38.5	40.9	46.2	52.2	(23)
Orleans	(4)	100.0	0	0	0	25.0	25.0	(4)
Erie	(78)	96.2	74.4	52.6	32.4	64.1	46.6	(73)
Genesee	(5)	80.0	60.0	20.0	0	40.0	57.1	(7)
Wyoming	(10)	100.0	30.0	0	0	10.0	30.0	(10)
Chautauqua	(20)	75.0	45.0	35.0	16.7	30.0	35.0	(20)
Cattaraugus	(13)	92.3	30.8	23.1	31.3	7.7	58.8	(17)
Allegheny	(3)	100.0	66.7	33.3	33.3	33.3	0	(3)
Subtotal	(159)	93.1	59.8	39.6	27.1	46.5	45.1	(157)
REGION 2								
Monroe	(31)	90.3	58.1	41.9	6.7	71.0	17.2	(29)
Wayne	(18)	77.8	61.1	72.2	29.4	72.2	29.4	(17)
Livingston	(8)	100.0	50.0	50.0	14.3	25.0	28.6	(7)
Ontario	(12)	91.7	33.3	33.3	16.7	25.0	25.0	(12)
Steuben	(13)	92.3	46.2	76.9	7.1	61.5	14.3	(14)
Yates	(3)	100.0	66.7	66.7	0	66.7	0	(3)
Seneca	(6)	83.3	33.3	50.0	0	16.7	33.3	(6)
Schuyler	(2)	100.0	50.0	100.0	0	50.0	0	(2)
Chemung	(13)	84.6	53.9	38.5	0	100.0	25.0	(12)
Subtotal	(106)	88.7	51.9	50.9	10.9	61.3	21.9	(102)

	(N)*	A) RECEIVING FOOD/FUNDS FROM:					B) WITH RESOURCE CONSTRAINTS ON SERVICE**	
		Individuals	Businesses	Government		Food Bank	%	(N)*
				Food*	Funds			
REGION 3								
St. Lawrence	(13)	100.0	53.9	15.4	30.0	0	42.9	(14)
Jefferson	(12)	50.0	25.0	41.7	46.2	33.3	38.5	(13)
Lewis	(4)	75.0	0	0	75.0	0	0	(3)
Oswego	(10)	100.0	0	50.0	12.5	20.0	0	(9)
Cayuga	(11)	100.0	27.3	27.3	0	9.1	20.0	(10)
Onondaga	(29)	89.7	48.3	34.5	25.0	48.3	35.7	(28)
Oneida	(17)	100.0	58.8	41.2	23.5	11.8	43.7	(10)
Herkimer	(9)	88.9	44.4	44.4	12.5	0	11.1	(9)
Madison	(14)	100.0	14.3	42.9	0	0	13.3	(15)
Chenango	(12)	83.3	16.7	41.7	0	8.3	8.3	(12)
Cortland	(4)	100.0	75.0	50.0	0	25.0	25.0	(4)
Tompkins	(16)	75.0	43.8	31.3	6.7	56.3	26.7	(15)
Tioga	(13)	84.6	15.4	7.7	0	69.2	8.3	(12)
Broome	(15)	100.0	66.7	46.7	41.6	6.7	16.7	(12)
Subtotal	(179)	89.4	37.4	34.6	19.5	24.6	24.4	(172)
REGION 4								
Franklin	(4)	100.0	50.0	25.0	20.0	25.0	20.0	(5)
Clinton	(13)	76.9	38.5	69.2	7.7	92.3	30.8	(13)
Essex	(4)	100.0	25.0	0	25.0	25.0	0	(4)
Hamilton	(2)	50.0	0	100.0	50.0	100.0	0	(2)
Fulton	(6)	83.3	50.0	33.3	0	16.7	33.3	(6)
Warren	(11)	100.0	27.3	18.2	27.3	0	54.5	(11)
Washington	(5)	100.0	40.0	20.0	0	0	20.0	(5)
Saratoga	(21)	100.0	47.6	52.4	9.5	19.1	52.3	(21)
Montgomery	(3)	100.0	33.3	33.3	0	66.7	50.0	(4)
Otsego	(9)	100.0	55.6	0	0	0	55.6	(9)
Schoharie	(10)	100.0	10.0	20.0	0	0	40.0	(10)
Albany	(41)	97.6	65.9	61.0	10.3	56.1	33.3	(39)
Schenectady	(7)	100.0	42.9	85.7	14.3	71.4	71.4	(7)
Rensselaer	(15)	100.0	33.3	60.0	33.3	53.3	33.3	(15)
Delaware	(12)	83.3	25.0	75.0	0	41.7	25.0	(12)
Greene	(10)	100.0	40.0	80.0	18.2	50.0	36.3	(11)
Columbia	(8)	100.0	62.5	25.0	12.5	0	14.3	(7)
Subtotal	(181)	95.6	44.2	49.7	12.0	38.1	72	(181)

	(N)+	A) RECEIVING FOOD/FUNDS FROM:					B) WITH RESOURCE CONSTRAINTS ON SERVICE**	
		Individuals	Businesses	Government Food*	Government Funds	Food Bank	%	(N)+
REGION 5								
Sullivan	(5)	100.0	0.	100.0	75.0	0	0	(5)
Ulster	(22)	90.9	27.3	59.1	10.5	27.3	48.0	(25)
Dutchess	(26)	96.2	23.1	30.8	19.2	30.8	40.0	(30)
Orange	(13)	100.0	76.9	38.5	30.8	0	53.8	(13)
Putnam	(5)	100.0	40.0	40.0	0	0	14.3	(7)
Rockland	(12)	100.0	16.7	0	0	0	27.3	(11)
Westchester	(31)	100.0	38.7	29.0	23.4	9.7	54.5	(33)
Nassau	(44)	97.7	65.9	63.6	34.0	52.3	55.6	(45)
Suffolk	(110)	91.8	30.0	45.5	24.4	39.1	36.4	(107)
Subtotal	(268)	95.2	37.3	44.8	23.8	31.0	42.6	(277)
REGION 6								
Bronx	(43)	67.4	37.2	58.1	28.2	30.2	72.5	(40)
Manhattan	(98)	76.5	52.0	59.2	43.0	45.9	39.6	(96)
Queens	(30)	76.7	36.7	53.3	28.6	23.3	53.8	(26)
Staten Island	(7)	71.4	57.1	71.4	28.6	71.4	14.3	(7)
Brooklyn	(67)	74.6	34.3	64.2	34.3	40.3	57.8	(64)
Subtotal	(245)	74.3	42.9	60.0	35.6	39.6	51.7	(233)
N.Y.S. TOTAL	(1138)	88.9	44.1	47.1	22.1	38.0	39.2	(1139)

* Government surplus commodities

**This item was considered as a positive response to the question: "Is the number of people you serve limited by the amount of food or funds you have (if you had more food would you serve more people)?"

+ (N) is the number of programs which responded to that question. The percentages of programs listed as recipients of government funds in some cases are based on a slightly different N as the results were taken from a separate question.

APPENDIX C

PART A: ENUMERATION OF EMERGENCY FOOD RELIEF OPERATIONS IN NEW YORK STATE

PART B: CHARACTERIZATION OF EMERGENCY FOOD RELIEF OPERATIONS IN NEW YORK STATE

PART A

ENUMERATION OF EMERGENCY FOOD RELIEF OPERATIONS IN NEW YORK STATE

Fall 1984

Agency ____________ Number ______________ County ______________

Postion __________________ Person ___________________________________

A. Identify yourself clearly.

For an agency without a known contact person go on to B; for an agency with a known contact person start with C.

B. Is there someone I can talk with who can give me a list of the food pantries and soup kitchens in county? If no - who would you suggest I call?

____

C. As part of the New York State nutrition initiative, the Department of Health is developing a comprehensive list of food pantries and soup kitchens in the state.

1. **Do you have a list of the food pantries and soup kitchens in your county/area? (Do you know the contact people for the food pantires and soup kitchens in your area?)**

   If YES: Would you please give me the names and phone numbers of the contact people?

   (a) preferably over the phone (list on back)

   (b) if not, mail it to me at:

   ____

   If NO: Who do you think would know about such programs?

   Name: ____

   Number: ____

   Agency: ____

2. **Do you know of any other sources of emergency food relief in your area?**

PART B

CHARACTERIZATION OF EMERGENCY FOOD RELIEF OPERATIONS IN NEW YORK STATE

Program ____________________ Contact ____________________

Number ____________________ County ____________________

As part of the New York State nutrition initiative, the Department of Health is doing a survey of the emergency food relief programs - the food pantries and soup kitchens in the State. We were given your name as a contact person for the (food pantry) or (soup kitchen).

We would very much appreciate if you would give us about 8-9 minutes of your time to answer a few questions about the (food pantry) or (soup kitchen).

If NO - Would another time be more convenient? Is there another person I should talk with? ______________________________

If YES -

For the soup kitchens:

1. How often is the soup kitchen open (how many meal times/week)?

Lunch: Mon. Tues. Wed. Thurs. Fri. Sat. Sun.
Supper: Mon. Tues. Wed. Thurs. Fri. Sat. Sun.

For the food pantries:

Is the pantry available all the time _____ or at specific times of the week or month?

____

2. (a) How many people do you estimate you serve? (use the category the respondent uses)

______/day OR ______/week OR ______/month

(b) Has this number increased, decreased, or stayed about the same over the past year? (circle response, write out any comments)

____

____

(c) Approximately what proportion of the people you serve would be families with children?

____

(d) Approximately what proportion of people you serve are elderly?

____

(e) Do you serve about the same number of men as women?

____

3. **Have you noticed any consistent pattern to the variation in requests for food over the week or month?**

No _____; **If Yes**, what is the pattern?

4. **Are there any limits to the number of times a person can use your program?**

No _____; **If Yes**, what are the limits?

5. (a) **Do you keep any kind of record of the number of people you serve?**

No _____; **If Yes**, would you be willing to share that record (or some parts of it) with us at some time in the future?

(b) **What are the main difficulties in keeping a record of your participants?**

6. (a) **Do you receive food from any of the following sources?**

Donations from individuals ___ Donations from businesses ___

Government surplus foods ___ A food bank ___

(b) **Do you purchase any of your food?** No ___; Yes ___

(c) **Do you have any other sources of food?**

(d) **Do you receive any government financial support?**

No _____; **If Yes**, from which government source?

7. Is the number of people you serve limited by the amount of food or funds you have (if you had more food would you serve more people)?

No ____; If Yes, are the people you cannot help unserved, or do you refer them on to another (food pantry) or (soup kitchen)? (Circle answer and write out any comments)

8. How long has the (pantry), (soup kitchen) been in operation?

THANK YOU VERY MUCH FOR YOUR HELP IN THIS SURVEY.

APPENDIX 2

American
Academy of
Pediatrics

Office of Government Liaison
American Academy of Pediatrics
1331 Pennsylvania Avenue
N.W. Suite 721 North
Washington, D.C. 20004-1703
(202)662-7460
(800)336-5475

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Rodrigo Loria Cortes
San Jose, Costa Rica

[illegible], M.D.
Sao Paulo, Brazil

[illegible], M.D.
Buenos Aires, Argentina

June 26, 1985

Honorable Doug Walgren	Honorable Berkley Bedell
U.S. Representative, Chairman	U.S. Representative, Chairman
Subcommittee on Science,	Subcommittee on Dept. Operations,
Research and Technology	Research & Foreign Agriculture
Room 2319 Rayburn H.O.B.	Room 1301 Longworth H.O.B.
Washington, D.C. 20515	Washington, D.C. 20515

Dear Representative Walgren:

The American Academy of Pediatrics Committee on Nutrition has long been concerned with the nutritional and health status for women, infants and children. We strongly support H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985, as an effective plan for the assessment of the nutritional and dietary status of the United States population and the assessment of the nutritional quality of the United States food supply.

The nutritional surveys conducted during the late sixties and early seventies provided valid, reliable data which guided our food assistance policies. Nutritional status is a variable which changes significantly with the economic situation, influx of new ethnic groups, dietary patterns and family lifestyles. It is critical that we have up-to-date information concerning the nutritional status of women and children if our policies and programs are to continue to be effective.

The collection, analysis and reporting of nutritional data requires a coordinated system at the federal, state and local levels. We believe that H.R. 2436 will establish and facilitate the implementation of such a system. We are particularly in favor of provisions in the bill to report, on a continuous basis, the dietary and nutritional status and trends of preschool and school age children, pregnant and lactating women, and low-income and minority populations. Efforts designed to permit reliable estimates of high-risk groups and timely data analysis are also greatly supported by the Academy.

H.R. 2436 provides the foundation for a reasonable, cost effective method of assessing the nutritional needs of our population and monitoring general health trends.

We commend you for you attention to this issue and offer our assistance in this effort.

Sincerely,

Alvin M. Mauer, M.D., F.A.A.P.

Alvin M. Mauer, M.D., F.A.A.P.
Chairman, Committee on Nutrition

AM/rosm

cc: Executive Committee
Committee on Nutrition

american school food service association
4101 east iliff avenue denver colorado 80222
(800) 525-8575 or (303) 757-8555

EXECUTIVE BOARD
[illegible]

July 29, 1985

The Honorable Doug Walgren
Chairman
Subcommittee Science, Research and Technology
Committee on Science and Technology
U.S. House of Representatives
Washington, D.C. 20515

Re: Nutrition Monitoring

Dear Mr. Chairman:

I would like to commend you, Congressman MacKay, and the Committee for the time and attention that has been devoted to nutrition monitoring. Investing in the nutritional health of the American people is one of the wisest investments we could make.

In expressing our support for the National Nutrition Monitoring and Related Research Act of 1985, H.R. 2436, we would like to share two observations with the Committee. Firstly , it is important that the Committee not have unrealistic expectations about the national nutrition monitoring system as a tool in measuring the effectiveness of federal programs. As was pointed out during the hearing on the legislation, there must be a prolonged period of nutritional deprivation before such deprivation will manifest itself in the nutrition monitoring program.

A goal of the federal feeding programs is to alleviate hunger on a day-to-day basis. Hungry children, as we all know, cannot learn, and indeed are often disciplinary problems. We believe it is necessary to establish in the legislative history of the bill the fact that HR 2436 is not intended to evaluate the effectiveness of federal feeding programs.

Secondly, it is our hope that the Committee can find a way to accommodate the concerns of the agricultural groups. Many of the national agricultural organizations are members of the Child Nutrition Forum and an important part of the political base of the federal feeding programs. We would not like to see nutrition monitoring become a divisive issue between organizations that in other forums are working together on behalf of the school lunch program and the other child nutrition programs.

Again, we would like to commend the Committee for giving such a significant amount of time and attention to a subject that, while extremely important, has been neglected. With these thoughts on the record we are pleased to endorse the legislation.

Thank you for the opportunity to comment.

Sincerely,

Gene White

Gene White
Chairman, Public Policy and Legislative Committee

GW:vn

ILSI International Life Sciences Institute-Nutrition Foundation
THE NORTH AMERICAN BRANCH OF THE INTERNATIONAL LIFE SCIENCES INSTITUTE

Dr. Grace Ostenso
Committee on Science and Technology
U. S. House of Representatives
2319 Rayburn House Office Building
Washington, D.C. 20515

Dear Dr. Ostenso:

Thank you for inviting the Nutrition Monitoring Subcommittee of the International Life Sciences Institute/Nutrition Foundation to comment on the proposed National Nutrition Monitoring and Related Research Act of 1985, H.R. 2436.

We will comment on the scientific aspects of the Bill rather than the logistics associated with the implementation of the program. We will focus on the following areas: food composition, food consumption, measures of nutritional status, and fitting these three components together in assessing a population's health status.

The Subcommittee supports efforts to increase the efficiency of collection, analysis and timely dissemination of information related to the monitoring of food intake and its relationship to nutritional status in the U.S. In our view, this goal should be achieved by assuring that it is compatible with the broad array of needs for data which have developed in the last several years. This effort should incorporate both scientific and technical knowledge and expertise to meet optimum use of such information. Furthermore, this effort should be carried out in a timely manner and in a manner that ensures the unique features of each of the national surveys are not compromised.

We encourage the involvement of the private sector, particularly the food industry because of their relevant successful expertise and because they will use the findings in later research, product development and marketing research. Industry participation in the overall process is an important and integral part of ensuring a nutritious and safe food supply.

FOOD COMPOSITION

In order to assess accurately the nutritional status of the people of the United States, knowledge of the composition of the foods consumed is essential. Obtaining accurate food composition information is complicated by a number of factors, including the continuous change the food supply undergoes and the lack of reliable methods for measuring many nutrients.

1126 SIXTEENTH STREET, N.W. • SUITE 111 • WASHINGTON, D.C. 20036 • (202) 659-0074/872-0778

The composition of the American diet is constantly changing. Processed foods, as well as commodity foods, are modified over time to meet consumers' preferences and expectations. For example, fortification has altered the nutrient profile of common foods, such as dairy and grain-based products. Also, there has been a rapid development of foods with reduced or altered salt, sugar or fat content. These changes in the food supply may not be reflected in the data bases currently used to evaluate the nutrient intake of the population.

The methodology of measuring nutrients in food is an evolving science. With each improvement in our analytical capability, we become more aware of the influence of the many components of food on the precision of our measurements of any one of them. The availability of some nutrient information is hampered by lack of adequate methodology. This is true for some vitamins, such as vitamin A and folic acid, for which a standard methodology has not been established. Other components of food, such as fat, also cannot be reliably measured in many food systems.

We support the need to make an extensive commitment to improving the nutrient data bases used for monitoring nutrient intake. Efforts must continue to ensure that the nutrient data bases accurately reflect the current food supply. Also, there should be continued efforts to improve the methodology used to assess the nutrient composition of food, which is a vital key to evaluating the nutritional status of Americans.

The food industry is a valuable resource for data on food composition for a national nutrient data base. The food industry currently and voluntarily provides nutrient information to public and government data bases. The food industry also has contributed significantly to advances in methodology for determining food composition. For example, methods for measuring dietary fiber were developed in cooperation with food scientists from the cereal industry. Therefore, a successful plan for improved food composition data should include participation by the food industry.

FOOD CONSUMPTION

Information on actual food consumption is necessary in order to assess the nation's nutrient status. The current Bill does not place enough emphasis on the monitoring of actual food consumption. An important aspect of measuring nutritional intake is an understanding of the foods people eat and their food consumption patterns.

Specifically, food consumption patterns are:

- integral to many federally supported programs
- important in evaluating how people relate to "nutrition"
- able to provide long-range evaluation of the impact of the food supply on the nutritional well-being of the population
- important in establishing estimated daily intakes of ingredients or foods

Thus, the Subcommittee suggests that wherever found in the Bill, the term "food consumption and" be inserted before "nutrition monitoring" to ensure that both types of information are collected and to emphasize the inseparable relationship between them. That is, the Bill should establish a National Food Consumption and Nutrition Monitoring Program.

The program should be designed to be an appropriate and valid source of information for the anticipated applications of the data. If, for example, the goal of a food consumption survey is to correlate food intake to long-term changes in health status, care must be taken to design the survey with this capability.

Continuous monitoring of the food system is essential to measure changes in food consumption and an eventual correlation with long-term health risks.

Effective response to changing conditions of behavior, food consumption and health requires rapid reporting of the results of food consumption surveys. Consumption can change as a result of a new product or ingredient introduction or the behavior change such as recent decreased consumption of whole milk and associated increased consumption of low-fat milk. Food consumption, as well as food composition, is constantly changing; therefore, reporting the results of 5 to 10-year-old studies has only limited usefulness.

MEASURES OF NUTRITIONAL STATUS

Americans are among the best-fed people in the world. As a nation, we have virtually eliminated classical, nutrient-deficiency diseases which were once prevalent. Much credit is due to enrichment and fortification of foods and to supplemental food programs. Recently, our focus has changed to optimizing health and to focusing on nutritional concerns of certain high-risk groups, such as those targeted by the WIC program.

As the focus shifts from the nutrient-deficiency diseases to detection of marginal deficiencies and excesses or imbalances in the diet, the methods for assessing the nutritional status must reflect these new objectives. Accurate methods for measuring nutrient status must be developed where they do not now exist. For example, there are no accurate biochemical methods to measure calcium, iron or folic acid status. Methods currently used to measure folacin cannot be successfully duplicated among laboratories; therefore, the results are useless for assessing nutrient status. No suitable method exists for monitoring the adequacy of calcium intake, since serum calcium is virtually constant over a wide range of intakes.

Although iron intakes are below the recommended daily requirement for a significant portion of the female population, this inadequacy is not directly correlated with the occurrence of iron-deficiency anemia. This is because the classic measurement of iron status is hemoglobin, which is maintained at the expense of storage iron in the body. Thus, an individual could have marginal iron status and not be classified as anemic. Until we have appropriate methods for measuring nutrient status, relationships to health status should not be made.

HEALTH STATUS

Determination of health status is an important part of any program related to health promotion or disease prevention. Because optimal health status is the ultimate goal in any nutrition improvement program, any nutrition monitoring program should stress improving methods that measure nutrient status. This is particularly important to a public dependent on a constantly evolving food supply with processed food being a major portion of that supply. A meaningful interpretation of health status requires three factors: development of an accurate food composition data base, identification of appropriate mechanisms for determining nutrient status, and the coordination of these with current food consumption patterns.

SUMMARY

The Nutrition Monitoring Subcommittee supports the need for an efficient means of determining the food intake and nutritional status of the public served by the food industry. This information, if developed in a timely manner, could be a valuable resource for enabling the food industry to respond to consumer needs. Such a data base would be of value in identifying food intake patterns, nutritional needs and market segments of the population at large, thereby guiding industry in new product development and marketing positions of existing products. In order for any monitoring system to be of maximum value to the food industry, it must be: (1) timely with its conduct, monitoring and reporting of data, (2) scientifically sound, and (3) preplanned in cooperation with the private sector to ensure an optimal nutrition monitoring program.

Sincerely,

Alta Engstrom

Alta Engstrom, Chairman
Nutrition Monitoring Subcommittee
ILSI/NF

0538A

APPENDIX 3

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

June 21, 1985

Honorable Doug Walgren
Chairman, Subcommittee on Science,
Research and Technology
Committee on Science and Technology
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

I look forward to presenting testimony to you at the June 25, 1985, hearing on nutrition monitoring.

Before the hearing, I want to emphasize that the Department is committed to monitoring of the nutritional quality of the U.S. food supply and American diets. Substantial increases in our requests for 1985 and 1986 appropriations for the Nationwide Food Consumption Surveys and National Nutrient Data Bank represent this commitment.

As background information, I assure you that we are improving our nutrition monitoring efforts based on results from our methodological research and on recommendations of the Congress, the President's Task Force on Food Assistance and outside advisory groups. A systematic and sequential monitoring program is being implemented.

1) More timely dietary information will be available on a core sample of the population from our new Continuing Survey; spring 1985 data will be available by fall.

2) Comprehensive dietary information for U.S. households and individuals will be provided by a decennial survey in 1987.

3) Studies of low-income and other populations at risk are emphasized through special studies and over-sampling.

4) Coordination of our surveys with those in the Department of Health and Human Services is facilitated through regular conferences of responsible Assistant Secretaries and of monitoring specialists in the two Departments. Examples of

cooperation are a common food coding system and nutrient data file for use in both surveys and a change by USDA to "probe" for information on fat used in food preparation to make measurement of fat in diets from the two surveys more comparable. The implementation plan for the National Nutrition Monitoring System is now being extended from 1987 to 1992.

5) Data reliability and efficiency are improved through studies of methods and standards and the use of new technologies.

6) Food composition data and results from our surveys are made available in published and machine readable form on a user fee basis. Consultation to States and local groups is provided by staff on request. Data user conferences are held on a regular basis to aid the users in evaluating the data for their purposes in the most scientifically sound manner.

In this regard, we oppose H.R. 2436, the National Nutrition Monitoring and Related Research Act of 1985. H.R. 2436 would mandate a nutrition monitoring program by 1990 that is consistent with many of USDA's monitoring goals. However, we estimate that its implementation would cost USDA an additional $15.5 million per year for increased dietary status monitoring alone. Also of concern to us is the delay in achieving our goals that is likely to occur because of the bureaucratic superstructure mandated in H.R. 2436. Support of an administrator, a 10-member Board, and a 15-member Council would drain valuable funds and staff time that could otherwise be devoted to research and data collection.

In summary, we are advancing well with our nutrition monitoring activities. We oppose enactment of H.R. 2436 because it would prove costly in terms of programmatic progress and tax dollars.

We hope our views are helpful to you in improving America's nutrition monitoring activities. If you or your staff have any questions about our nutrition monitoring activities, please call me at 447-7711.

Sincerely,

J.W. Bode

JOHN W. BODE
Acting Assistant Secretary
for Food and Consumer Services

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

JUN [illegible] 1985

Honorable E (Kika) de la Garza
Chairman, Committee on Agriculture
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This is in response to your request of May 31, 1985, for a report on H.R. 2436, a bill "To establish a coordinated National Nutrition Monitoring and Related Research Program, and a comprehensive plan for the assessment of the nutritional and dietary status of the United States population and the nutritional quality of the United States food supply, with provision for the conduct of scientific research and development in support of such program,and plan."

This Department opposes the enactment of H.R. 2436.

We agree that a national nutrition monitoring system is necessary to insure that the nutritional needs of the public are satisfied and to provide information to guide the expenditure of public funds for nutrition research and intervention programs. Toward that end we are committed to implementation of the National Nutrition Monitoring System submitted to Congress in 1981 and its extension through continued joint management by the U.S. Departments of Agriculture and of Health and Human Services. Through the sequential and systematic approach defined through this management, we believe the major objectives of H.R. 2436 can be achieved with no adjustment to the current management system.

Information on diets will come from a survey initiated this spring on a national sample of women and young children, as well as a comparable low-income sample. Results from the survey will be available in a few months after data collection ends. This survey and the 1987 decennial survey of household food use and intakes of individual household members reflect considerable preliminary study. Data users conferences identified priority data needs and studies of methods and technologies helped define procedures to be followed. Quarterly conferences of U.S. Departments of Agriculture and Health and Human Services monitoring specialists help assure comparability of surveys and avoid duplication of effort. These activities, we believe, are appropriate under the Joint Implementation Plan for Nutrition Monitoring given to Congress in 1981. We feel that monitoring activities in USDA are now moving at a pace that is efficient and scientifically sound.

We oppose enactment of H.R. 2436 for the following reasons:

- o The minimum monitoring requirements for dietary data alone would increase program cost by about $15.5 million (FY 1985 dollars) per year. It is not clear that such expansion of data gathering is necessary for satisfying priority data needs.

- The management structure proposed--an Administrator, a 10-member Board and a 15-member Council--would be cumbersome and likely to delay the Department in achieving its monitoring goals. Moreover, this structure is essentially the same as that proposed by H.R. 4684 of the 98th Congress, which the Department of Justice opposed on constitutional grounds. We understand that the Department of Justice is currently reviewing H.R. 2436.

- The administration of funds for monitoring methodologies by the National Science Foundation, which now has no expertise in this area, would not be expected to result in a research program to meet needs of the monitoring agencies, who have the best understanding of those needs.

- The requirement that a scientific body, such as the National Academy of Sciences or the Federation of American Societies for Experimental Biology, recommend dietary guidance and effective communication of such guidance to the public is duplicative of USDA program and therefore, unnecessary.

- The designation of the Secretary of Health and Human Services as the responsible official for nutrition monitoring research would introduce confusion because of the leadership role for certain major monitoring activities assigned to the Secretary of Agriculture in the Food and Agriculture Act of 1977 and earlier legislation. Examples of activities in the bill covered by the 1977 Act are food consumption measurements, food composition measurements and nutrient data banks, and food supply and demand determinations. These activities have been the responsibility of the Department of Agriculture for decades.

The Department's commitment to nutrition monitoring has been demonstrated through increased allocations of funds and staff to complete current contracts during 1985 and 1986 for the dietary survey, and to conduct a comprehensive decennial survey. In cooperation with the Department of Health and Human Services, we are conducting and planning nutrition monitoring and related research at a pace that is practical relative to the methods, standards, and technologies available. Therefore, we are opposed to H.R. 2436 as unnecessary and potentially harmful in achieving our monitoring goals, which are consistent with those in the proposed legislation.

The Office of Management and Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

John R Block

John R. Block
Secretary

U.S. Department of Justice

Office of Legislative and Intergovernmental Affairs

Office of the Assistant Attorney General

Washington, D.C. 20530

AUG 4 1986

Honorable Don Fuqua
Chairman
Committee on Science and Technology
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This presents the views of the Department of Justice on H.R. 2436, a bill "[t]o establish a coordinated National Nutrition Monitoring and Related Research Program, and a comprehensive plan for the assessment of the nutritional and dietary status of the United States population and the nutritional quality of the United States food supply, with provision for the conduct of scientific research and development in support of such a program and plan." The Department of Justice recommends against the enactment of this legislation in its present form.

With respect to the goals to be achieved by the bill, the Department of Justice generally defers to the views of the departments and agencies having substantive jurisdiction over the subject matter of this legislation. The objections of the Department of Justice are primarily directed at the method of appointing the Administrator of Nutrition Monitoring and Related Research (Administrator) in § 101(d) of the bill and the composition of the National Nutrition Monitoring Advisory Council (Council) provided in § 201.

The bill would provide for a ten-year coordinated program to be known as the National Nutrition Monitoring and Related Research Program (Program) to carry out the purpose of the Act. The Secretary of Health and Human Services would be responsible for the implementation of the coordinated Program. (§ 101a).

1. Section 101(d) would provide for the appointment of an Administrator of Nutrition Monitoring and Related Research by the Secretary of Health and Human Services, by and with the advice and consent of the Secretary of Agriculture. The Administrator would serve as a central focus and coordinator for the Program and would administer it. § 101(d). The appointment of the Administrator by the Secretary of Health and Human Services, by and with the consent of the Secretary of Agriculture, would violate the Appointments Clause of the Constitution. (Art. II, § 2, cl. 2). The

Administrator would be charged with administration of the Program, consequently he would exercise significant authority pursuant to the laws of the United States or perform " a significant governmental duty exercised pursuant to public law." *Buckley* v. *Valeo*, 424 U.S. 1, 126, 141 (1976). Accordingly he has to be appointed according to the provisions of the Appointments Clause. *Buckley* v. *Valeo*, *supra*, 118-141. The Appointments Clause provides for the appointment of officers to the United States by the President, by and with the advice and consent of the Senate, or, where authorized by Congress, by the President alone, the Courts of Law, or the Heads of Departments. These methods of appointments are exclusive. *Buckley v. Valeo*, *supra*, at 126, 138-39. *See also* 4 Op. A.G. 162, 164 (1843); 10 *id*. 204, 209 (1862); 11 *id*., 209, 210-12 (1865); 13 *id*. 516, 521-23 (1871); 18 *id*. 409, 410-11 (1886). The appointment of an officer by a department head, by and with the advice and consent of another department head, is not among the methods of appointment that Congress may authorise under the Appointments Clause; it is therefore unconstitutional. A similar problem was presented by the Commodity Futures Trading Commission Act of 1974. Section 101(a)(3)(5) of that Act (88 Stat. 1390) provided for appointment of the Executive Director of the Commodity Futures Trading Commission by the Commission by and with the advice and consent of the Senate. In signing the legislation, President Ford noted that the provision for the appointment of the Executive Director in a manner not contemplated by the Constitution raised serious constitutional questions. 10 Weekly Comp. Pres. Doc. 1366 (1974). The Futures Trading Act of 1978 subsequently provided for the appointment of the Executive Director by the Commission alone. § 2(6), 92 stat. 865. The Committee Reports accompanying the bill explained that the advice and consent requirement to the appointment of the Executive Director was eliminated in view of the constitutional question raised by that method of appointment. S. Rep. No. 850, 95th Cong. 2d Sess. 28 (1978); H.R. Rep. No. 1181, 95th Cong. 2d. Sess. 22 (1978). [1]

We therefore recommend that the advise and consent requirement be stricken and that it be replaced, if at all, by a consultation clause.

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[1] The House Report described the constitutional question as "serious". *Id*.

2. Section 201 of the bill would establish a Council to assist in carrying out the purpose of the Act, to provide technical advice, and to serve in an advisory capacity to the Secretary. The Council would consist of eighteen members. Fifteen members would be voting, of those, seven would be appointed by the President and eight by congressional officers. There would be three non-voting *ex officio* members who would be designated from and by a Board consisting of officers of the Executive Branch. *See* § 101(c).

The presence on a Council created by federal legislation of members appointed by Congressional officers necessarily raises the question whether those members must be "officers of the United States" in the constitutional sense. If they must be such officers, because of the nature of the duties they perform, they must be appointed in a manner provided for in the Appointments Clause of the Constitution: by the President, by and with the advice and consent of the Senate, or, where authorized by statute, by the President alone, or the Courts or the Heads of Departments. Congressional officers cannot "appoint" officers of the United States. *Buckley* v. *Valeo*, 424 U.S. 1, 118-41 (1976).

Whether a person must be an officer of the United States in the constitutional sense depends, as indicated above, upon his statutory duties. A person who performs merely advisory functions, and who possesses no enforcement authority or power to bind a citizen or the Government, is generally not considered to be an officer within the meaning of the constitutional provisions cited above. 24 Op. A.G. 12 (1902); 26 Op. A.G. 247 (1907); H.R. Rep. No. 2205, 55th Cong. 3d. Sess. 48-54 (1899). On the other hand, a person who exercises significant authority pursuant to the laws of the United States must therefore be appointed pursuant to Article II, § 2, cl. 2 of the Constitution. *Buckley* v. *Valeo*, 424 U.S. 1, 126, 141 (1976).

We have examined the functions of the Council to determine whether it is intended to be merely an advisory body or whether it will also be involved in the administration of the Act. According to § 201(a)(1) the Council would have mainly advisory duties, but it would also have the function "to assist in carrying out the purpose of the Act." Assistance in carrying the purposes of legislation is essentially an Executive function. The Council therefore would not merely have advisory functions. Consequently its members would have to be appointed in accordance with the requirements of the Appointments Clause of the Constitution, *i.e.*, the Council could not comprise members appointed by Congressional officers. However, even if it were assumed *arguendo* that the duties of Council members are primarily advisory and that their Executive functions may be disregarded as being *de minimis*, we still would object to the bill on two grounds.

First, the creation of Councils such as this one, which as far as their membership is concerned, are not clearly legislative, judicial, or executive, but which are charged with giving advice to the Executive Branch, tends to erode the important structural separation of powers ordained by our Constitution. The Framers of the Constitution purposely divided federal authority among three separate Branches. Although the Branches are not hermetically sealed from one another, *Immigration and Naturalization Service v. Chadha*, 462 U.S. 919, 951 (1983), the separation of powers inherent in our Constitution, creating a system of checks and balances designed to prevent the abuse of federal power, and establishing a structure whereby those exercising power are accountable for their actions, requires that each Branch maintain its separate identity, and that functions should be clearly assigned among the separate Branches. The Council does not mesh with this constitutional structure. As established by this bill, the Council could not be considered to be a part of any branch established by the Constitution, but, nevertheless, having a majority of voting members appointed by the Legislative Branch, it would be in a position to interfere with the activities of the Executive Branch officers who are charged with the administration of the Act.

The giving of advice to the Executive Branch, however, is a "purely executive" function over which the President must also be able to exercise full control. *Martin v. Reagan*, 525 F.Supp. 110, 113 (D. Mass. 1981). A council which is designed to give advice to the Executive Branch therefore may not contain any members appointed by congressional officers, let alone be dominated by them.

Second. Assuming, arguendo, that it is appropriate to have on the Council members appointed by both the Executive and Legislative Branches, the representation of the two Branches lacks the proper balance. Te bill would provide for the appointment of the majority of the voting members of the Council by Congressional officers. In our view the proper relationship between the Executive and Legislative Branches requires that they be at least equally represented on a Council of this type.

The Office of Management and Budget has advised this Department that there is no objection to the submission of this report from the standpoint of the Administration's program.

Sincerely,

(Signed) Phillip D. Brady

Phillip D. Brady
Acting Assistant Attorney General

APPENDIX 4

THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985
(H.R. 2436)

JUNE 25, 1985

FOLLOW-UP QUESTIONS FOR THE DEPARTMENT OF HEALTH AND HUMAN SERVICES REQUESTED BY THE SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY, COMMITTEE ON SCIENCE AND TECHNOLOGY

Question #1

H.R. 2436 establishes an Intergovernment Science Board for Nutrition Monitoring and Related Research to facilitate the management and implementation of the coordinated program. Could the present Interagency Committee on Human Nutrition Research assume the functions of the Intergovernment Science Board for Nutrition Monitoring and Related Research? Please explain. What Federal agencies are members of the Interagency Committee on Human Nutrition Research?

Answer

The purpose of the Interagency Committee on Human Nutrition Research (ICHNR), as defined in its charter, is to increase the overall effectiveness and productivity of research efforts in nutrition. In fulfilling this purpose, the Committee addresses all nutrition research activities, including but not limited to nutrition monitoring and surveillance. The ICHNR does not have management responsibilities for programs, such as is required in nutrition monitoring.

The Assistant Secretary for Health, Department of Health and Human Services (DHHS), and the Assistant Secretary for Science and Education, United States Department of Agriculture (USDA), co-chair the ICHNR. In addition, members of the Committee include two representatives each from DHHS and USDA, and one representative from each of the following agencies: Agency for International Development (AID), Department of Commerce (DOC), Department of Defense (DOD), National Aeronautics and Space Administration (NASA), National Science Foundation (NSF), Veterans Administration (VA), and the White House Office of Science and Technology Policy (OSTP). Other Federal agencies may participate, as appropriate, upon invitation by the ICHNR Co-chairpersons.

In our opinion, it would not be appropriate for the ICHNR to assume the function of facilitating the management and implementation of a coordinated Nutrition Monitoring and Related Research program. To add such responsibilities would broaden the scope of the ICHNR considerably, and would detract from its mission of coordinating all types of nutrition research in the Federal Government, including both basic as well as applied research activities. Similarly, it is inappropriate for a committee as large and broadly representative as the ICHNR to assume responsibility for coordination or management of nutrition monitoring programs. Much of the coordination required in the nutrition monitoring system relates to operational and technical issues, primarily between USDA and DHHS; a large, multilateral committee is not the most efficient or effective mechanism for addressing these problems.

Under the current management system, the Assistant Secretary for Health (DHHS) and the Assistant Secretary for Food and Consumer Services (USDA) share responsibilities for coordination of the activities of the two Departments relating to nutrition monitoring and surveillance, and co-chair the Joint Nutrition Monitoring Evaluation Committee (JNMEC). The ICHNR, while related, addresses research topics more broadly based than the issue of nutrition monitoring. Although we experienced problems and delays in establishing the mechanisms for the nutrition monitoring and surveillance system, we feel that our investment in this management structure is beginning to pay off.

Question #2

With respect to complexity, multi-agency responsibility and coordination, nutrition monitoring is similar to biotechnology. Could the Federal organizational structure proposed by the Office of Science and Technology Policy for coordination of Federal biotechnology activities be used as a model for the coordination of Federal nutrition monitoring activities? What organizational arrangement for coordination of Federal nutrition monitoring activities would you recommend?

Answer

As mentioned in our June 25 testimony, we feel that we are solving many of the problems encountered in past years in organizing and implementing the National Nutrition Monitoring System (NNMS) plans. The benefits of these efforts are beginning to pay off in terms of better coordination and better communication among the participating agencies.

As part of our responsibilities for the NNMS we place high priority on coordination among Agencies within DHHS and also with USDA. For example, within DHHS, NCHS, FDA and CDC have collaborated closely on analysis of data, identification of research needs, and designing of future surveys. CDC and NIH have supported the NNMS through development of methodologies and analytical activities.

Coordination with USDA has included regular meetings between DHHS and the USDA staff to review activities and areas for coordination of the NHANES survey components of the NNMS. Although the surveys conducted in each Department focus on different issues and interests, significant benefits are gained by assuring comparability in areas where analysis of both data bases would be beneficial. Toward that end, the staffs of these surveys have continued to address operational issues regarding geographic and socioeconomic definitions, the use of common nutrient data banks, the use of similar coding procedures and the use of similar questionnaires for portions of the surveys that are directly comparable. With USDA, we are developing methods for automating the dietary intake interview, which is common to both surveys. We hope that this will ultimately result in the more timely collection of data that are comparable between surveys. The two Departments are currently consulting on plans for data user conferences for the two surveys that will include a review of the specific comparability issues for data analysis.

In summary, we feel that our efforts under the current NNMS are producing results that are useful to the scientific community and nutrition policy-makers. We also feel that effective lines of communication have been established within our Department and with USDA. While there is clearly room for improvement, we believe that significant progress has been made in improving the coordination of nutrition monitoring activities throughout our Departments. The real problems are to resolve technical issues among components of the NNMS and to pursue ways to better utilize information collected through our data systems. We believe that these problems can best be addressed through mechanisms which are already in place and in which we have already invested considerable effort.

Thus, while there are similarities between the fields of nutrition monitoring and biotechnology regulation, there are important differences that lead us to conclude that the organizational structure for biotechnology suggested by the Office of Science and Technology Policy (OSTP) is not appropriate to nutrition monitoring. In nutrition monitoring, agency authorities are clearly defined and have been recognized over a period of time; and mechanisms to coordinate nutrition monitoring activities between the agencies are in place. While management of biotechnology has a need to assure regulatory consistencies among agencies, a different type of coordination is needed for nutrition monitoring. In the latter case, coordination is needed primarily on a technical level to assure comparability between surveys; such coordination is better accomplished through more direct working arrangements between the relevant agencies. We do not believe that fundamental changes in the current approach to coordination and management of the NNMS are necessary.

Question #3

You indicated the 1981 Joint Implementation Plan for National Nutrition Monitoring is being extended from 1987 to 1992. When will the extended plan be completed? How frequent was the 1981 plan revised to reflect budgetary and other circumstances which modified the original plan? Please submit revisions for the record.

Answer

Revision of this plan will involve a number of components of the Public Health Service (including National Center for Health Statistics (NCHS), Food and Drug Administration (FDA), Centers for Disease Control (CDC), Office of Disease Prevention and Health Promotion (ODPHP), and National Institutes of Health (NIH)), and will be carried out in close collaboration with USDA and other relevant Federal agencies. We have begun to discuss the steps that must be taken to revise this plan. Currently, we are collating recommendations received from members of the DHHS Nutrition Policy Board. Once these recommendations are reviewed by DHHS Administrative Staff, we will work with USDA to develop a definitive timetable for its completion.

To date, no formal modifications have been made in the original plan.

Question #4

In July, 1982 the President's Science Advisor accepted the responsibility of developing a Federal Five Year Comprehensive Plan for Human Nutrition Research. Will that plan include nutrition monitoring and related research? What agency is responsible for coordinating the development of the plan? What mechanism has been used to obtain recommendations for research priorities from other Federal agencies, the private sector, the academic community, and scientific societies? How long has the development of the plan been in progress and when will it be submitted to the Congress?

Answer

The 1982 charges accepted by the President's Science Advisor to develop a Federal 5-year plan were first addressed by the Joint Subcommittee on Human Nutrition Research (JSHNR). This committee was replaced in June, 1983, by the Interagency Committee on Human Nutrition Research (ICHNR). This latter committee is co-chaired by the Assistant Secretary for Health (DHHS) and Assistant Secretary for Science and Education (USDA), with committee representation from seven other Federal agencies. The purpose of the ICHNR is to increase the overall effectiveness and productivity of research efforts in nutrition. In fulfilling this purpose, the Committee is charged with: (a) improving the planning, coordination, and communication among Federal agencies engaged in research on nutrition, and (b) facilitating the development and updating of plans for Federal research programs to meet current and future domestic and international needs for nutrition.

A current priority activity of the ICHNR is the development of a Five Year Comprehensive Research Plan for Nutrition. This plan identifies a number of research activities related to Nutrition Monitoring and includes a specific section devoted to Research on Nutrition Monitoring and Surveillance of Populations. There are also sections identifying related research areas in food composition, nutrient data base methodology, survey methods and analysis techniques. USDA and DHHS have the major responsibility for nutrition monitoring research. A comprehensive inventory of all federally supported human nutrition research is in the Human Nutrition Research Information Management System (HNRIMS) (see respond to question #8).

DHHS and USDA have joint responsibility for the implementation of ICHNR activities including development of the Five-year Research Plan, since this Committee is co-chaired by Assistant Secretaries from these two agencies. The professional staff of the two agencies maintain regular contact to facilitate and coordinate ICHNR responsibilities. All activities are reviewed by the representatives from the nine member agencies.

Development of various aspects of the five-year comprehensive plan and related activities have been underway since the latter part of 1983 when the ICHNR was established. Recent accomplishments and activities include:

- A listing (inventory) of human nutrition research areas based on the definition and delineation of research categories established by the Joint Subcommittee on Human Nutrition Research (JSHNR) (JSHNR, Am J Clin. Nutr. Supplement 34(5):789, 1981);

- Identification of specific areas of nutrition research which should receive special attention over the next five years by 32 outside nutrition experts. Their comments have been tabulated and presented to the committee. In addition, the Institute of Food Technologists (IFT) shared the results of their November 1984 conference/workshop in which invited scientists developed research priorities for academic food science programs and for the food industry.

- Conduct of the ICHNR-sponsored two-day conference for scientists from federally supported USDA research centers and NIH Clinical Nutrition Research Units was held in Washington, D.C., January 14 and 15, 1985. The themes for this productive and well received program were (a) use of stable isotopes in human nutrition, and (b) body composition methodologies.

- Publication of NIH nutrition research priorities in the FY'83 Annual Report of the National Institutes of Health Program in Biomedical and Behavioral Nutrition Research and Training.

At this point, we are not sure when the five-year comprehensive research report will be completed. In developing this report, we are attempting to extend and further integrate the overview of nutrition research within the Federal Government as reported in the 1983 Update published by the JSHNR. The process of cross-cutting across agency lines, however, has proven to be a challenging and, at times, difficult task, requiring more time than orginally anticipated.

Question 65

For the last several years, the USDA and DHHS testified that the Joint Nutrition Monitoring Evaluation Committee would be expanded to six or eight members to include representation from the public and private sector. What is the current membership of the Joint Evaluation Committee? Who is the Chairman of the Joint Evaluation Committee and how frequently did the Chairman participate in the activities of the Committee?

Answer

The current members of the Joint Nutrition Monitoring Evaluation Committee are:

James O. Mason, M.D., Dr.P.H.
Acting Assistant Secretary for Health
Department of Health and Human Services

John Bode
Acting Assistant Secretary for Food and Consumer Services
Department of Agriculture

Helen A. Guthrie, Ph.D.
Professor of Nutrition
The Pennsylvania State University

Jean-Pierre Habicht, M.D.
Professor of Nutrition
Cornell University

Stanley R. Johnson, Ph.D.
Professor of Agricultural Economics
Iowa State University

Theodore B. Van Itallie, M.D.
Professor of Medicine, College of Physicians
and Surgeons
Columbia University at St. Luke's
Roosevelt Hospital Center

We expect to expand the number of non-Federal members of the Committee following the completion of the Report to Congress currently in progress.

The Assistant Secretary for Health (DHHS) and the Assistant Secretary for Food and Consumer Services (USDA) co-chair the Committee. Dr. Mason, who has been Acting Assistant Secretary for Health since February, has not attended a Committee meeting, but has been kept informed on the status of the Committee's report to Congress.

Question #6

What are the specific advantages and disadvantages of beginning the Nationwide Food Consumption Survey in 1987 and beginning the National Health and Nutrition Examination Survey in 1988? What are the long-range implications of beginning the two surveys in different years?

Answer

Although we are starting the third National Health and Nutrition Examination Survey (NHANES III) a year later than originally planned, it is getting off to a much firmer start than would have been originally possible. For this survey, the advantages related to beginning data collection in 1988 are:

- additional time and resources will be devoted to improving survey design and methods, and
- more complete automation of data collection and data processing will be accomplished.

The end result will be faster analysis and release of survey findings.

In addition, there will be better coverage of the U.S. population by staggering the start of the surveys. The Nationwide Food Consumption Survey to be conducted in 1987 will have a one-year period of data collection. The plans for the third National Health and Nutrition Examination Survey are to conduct interviews and examinations over a six-year period from 1988 through 1994. Each two years of data collection will yield a nationally representative sample. Thus, by the early 1990's, results will start coming out on a regular biennial basis allowing for moving averages to the total population and for various subgroups. Trends can be monitored, and the larger sample sizes accrued over four and six years will permit more reliable estimates for minority groups.

Question #7

What data bases are used to determine the specific foods to be analyzed annually in the Total Diet Study? If current data bases are 6-10 years old, are these data adequate as a basis for the Total Diet Study and for regulatory decisions concerning the nutritional quality and adequacy of the food supply made by FDA?

Answer

The FDA Total Diet Study Survey is based on the most current national studies on food consumption which are the USDA 1977-78 Nationwide Food Consumption Survey (NFCS) and the NHANES II (the second National Health and Nutrition Examination Survey) which was done by the National Center for Health Statistics in 1976-80. Food consumption data from these two surveys were used to select the foods and develop the diets for the current FDA Total Diet Study which was revised in April 1982. The foods and diets for the Total Diet Study will be reevaluated when data from the next NFCS (scheduled for 1987) and/or the NHANES III (scheduled for 1988) are available. Prior to the 1982 revision, the foods selected for the Total Diet Study were based on data from the 1965 USDA Household Food Consumption Survey (HFCS), and prior to that they were based on the 1955 HFCS. Thus, the Total Diet Study uses the most recent national data on food consumption as the basis for the selection of foods and diets. Fortunately most substantive changes of the food supply have been slow and therefore these data have been reasonably reflective of the actual consumption of food by population segments. Consequently measurements of the quality of the food supply have also been considered adequate. Furthermore, there is always the opportunity to utilize new data on food consumption as it becomes available. With the availability of new surveys, for example, updates can be made as appropriate.

Question #8

At last year's hearing, USDA and DHHS testified that the Human Nutrition Research Information Management System mandated by the 1981 Farm Bill was fully operational. The system has at least two categories relating to nutrition monitoring, i.e., nutritional status and food consumption surveys. Please submit for the record a print-out of the expenditures in each of the categories relating to nutrition monitoring, by each agency, for FY 1983, 1984, and 1985.

Answer

The Human Nutrition Research Information Management (HNRIM) system contains three categories that relate to this question: Code 16, Research on Nutritional Status; Code 30, Research on Food Consumption Surveys; and Code 31, Research on Dietary Practices, Food Consumption, and their Determinants.

The current on-line file contains the latest submissions from each Department: FY 1984 data from DHHS, Agency for International Development (AID), and Department of Commerce/National Oceanographic and Atmospheric Administration (NOAA); FY 1983 data from USDA; and FY 1982 data from the Veterans Administration (VA) and Department of Defense (DOD). (Please note: VA data for FY 1983 and FY 1984 have recently been received by the HNRIM System Coordinator but are in a form that will require additional computer programming before the data can be added to the system. It is hoped that this task will be completed by September. DOD reported that no nutrition research was supported by them in FY 1983 or 1984.)

Computer print-outs of the latest available expenditure data for each agency for the three research categories related to nutrition monitoring were obtained and results are summarized in the attached Table 1.

TABLE 1

HUMAN NUTRITION RESEARCH INFORMATION MANAGEMENT SYSTEM EXPENDITURES[a] FOR NUTRITION MONITORING RELATED RESEARCH

Agency	Code 16[b]	Code 30[c]	Code 31[d]
	Thousands of Dollars		
FY'84 DHHS			
Centers for Disease Control	259		
Food and Drug Administration	534	417	796
Health Resources and Service Admin.			132
National Cancer Institute	8960	1448	5020
National Heart, Lung, Blood Inst.	3767	8	2018
National Institute Arthritis, Diabetes, Digestive & Kidney Dis.	5468	216	939
National Institute of Allergy and Infectious Diseases	70		
National Institute of Child Health and Human Development	12237	6	236
National Institute of Dental Research	52		170
National Institute of General Medical Sciences	109		
National Eye Institute		59	
National Institute of Aging			68
Division of Research Resources (NIH)	4699	737	302
National Institute of Neurological and Communicative Disorders and Stroke			81
FY'83			
Agency for International Development	799		36
USDA			
Agricultural Research Services	5362	390	554
Cooperative Research Grants Office	218		
Cooperative State Research Service	1528	673	1957

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[a] Latest available data

[b] Code 16: Research on Nutritional Status

[c] Code 30: Research on Food Consumption Surveys

[d] Code 31: Research on Dietary Practices, Food Consumption, and Their Determinants

Question #9

In 1981, DHHS sponsored a conference on the Assessment of Nutritional Status which resulted in eleven recommendations for nutritional status and food consumption surveys and research. Please submit for the record, each recommendation accepted by DHHS, how and when the recommendation was implemented, and the contribution of the outcome to the National Nutrition Monitoring System. If a recommendation was not accepted or implemented, please explain why?

Answer

The eleven recommendations resulting from the "Conference on the Assessment of Nutritional Status" that dealt with nutritional status and food consumption surveys and research, included the five recommendations from Session IV: "Assessment of nutritional status in epidemiological studies and surveys of populations", and six recommendations from Session V: "Recent advances in food consumption methodology." These eleven recommendations are given in the attached Table 2. Ways in which the recommendations were implemented by DHHS are described below. Implementation of the recommendations by other agencies and academic research units is not listed. However, since the recommendations were widely circulated among the research community, it is likely that more research progress than that noted by DHHS has been made.

In terms of recommendations 1 and 2 (see attached Table 2), a number of NIH Institutes have proposed, since 1981, various areas for future research related to nutritional status assessment and epidemiological studies in nutrition through the publication of Program Announcements (PAs), Requests for Applications (RFAs) and Requests for Proposals (RFPs). A few examples of the research areas proposed include: "nutritinal status assessment of the cancer patient," "the relationship of dietary intake to caries incidence," "environmental and host factors affecting nutritional requirements," "accuracy of the questionnaire derived from historic dietary information," "studies on obesity," "international food composition data system," "the analysis of relationships between growth and dietary intake using NHANES data," etc.

In FY 1984, the NIH supported 342 projects in the area of nutritional status assessment. Expenditures in this area by the National Cancer Institute (NCI), National Heart, Lung, and Blood Institute (NHLBI), National Institute of Dental Research (NIDR), National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases (NIADDK), National Institute of Allergy and Infectious Diseases (NIAID), National Institute of General Medical Sciences (NIGMS), National Institute of Child Health and Human Development (NICHD), and Division of Research Resources (DRR) were $35.3 million, up from $30.9 million for 302 projects in FY 1983. Some examples of the kind of research studies supported in this area in FY 1984 are as follows: "nutrition and other risk factors in prostatic cancer," "serum hormones in vegetarian and non-vegetarian girls," "dietary bioavailability of selenium in man," "dietary fat, carbohydrate balance and weight maintenance," "fat and fat free body composition in children," "mechanisms by which malnutrition affects lactation," "dietary mineral bioavailability in premature infants," "protein requirements of infants and children, etc." Complete narrative descriptions of the NIH projects listed in this area of "Nutritional Status Assessment" are also available through the HNRIM system.

In addition to the research described above, the following projects and pilot studies on nutritional status assessment measurements are being conducted at the seven NIH-supported Clincal Nutrition Research Units: "microtizing measurements of vitamins A and E utilizing HPLC instrumentations," "protein, vitamin and amino acid status of patients on Criticare," "nutritional status of the free-living elderly," "micronutrient status of patients on total parenteral nutrition," "a nutritional survey of nursing home patients," "quantitative assessment of protein nutrition and metabolism in pregnancy," "establishment of selenium concentrations in blood of healthy human subjects," "dietary intake of institutionalized developmentally disabled children," "nutritional assessment of low birth weight infants," and "effect of maternal nutritional status on fetal growth and placental growth and function."

In FY 1984, expenditures by NCI, NHLBI, NIDR, NIADDK, NIAID, NICHD, and National Institute of Aging (NIA) for 220 projects in epidemiological nutrition research in FY 1984 were $36 million, up from $26.4 million for 176 projects in FY 1983. Some examples of the kind of research studies supported in this area in FY 1984 are as follows: "U.S.-Finland studies of nutrition and cancer," "nutrition intervention trial in Linxian, China," "microcomputer based dietary data collection systems," "epidemiology of diet and cancer in women," "coronary heart disease risk in young adults," "dietary risk factors for diabetes in a cohort of women," "vitamin mineral data bank," "infant feeding practices among the Negev Bedouins," and "effects of maternal phenylketonuria on pregnancy outcome." Complete narrative descriptions of the NIH projects listed in this area of "Epidemiologic Nutrition Research" are also available through the HNRIM system.

In response to recommendation 3 (see attached Table 2), the National Center for Health Statistics has made every effort to expedite the analysis of the data collected from the National Health and Nutrition Examination Survey (NHANES), 1976-1980. The Food and Drug Administration has collaborated with NCHS and CDC to analyze the NHANES data on iron, zinc, vitamin A and folate nutritional status.

In response to recommendations 4 and 5, the Framingham Heart study, which began in 1948, was designed as a long-term investigaton of 5,209 residents of Framingham, Massachusetts, between the ages of 30-62 years, and free of cardiovascular disease at the outset. A recent analysis of the Framingham data indicates that obesity, measured by Metropolitan Relative Weight, is a significant independent predictor of cardiovascular disease (CVD). The data further show that weight gain after the young adult years conveyed an increased risk of CVD in both sexes that could not be attributed either to their initial weight or to the levels of the risk factors that might have resulted from weight gain.

A continued follow-up of the original Framingham cohort is currently ongoing. And at present, the NCI is in the process of establishing collaborative research with Framingham investigators in order to examine the incidence of cancer and its possible relationship to blood lipids and cholesterol levels in men of the original Framingham cohort.

In addition to the original Framingham cohort, the Framingham Offspring study was initiated in 1971 to assess familial and genetic factors as the determinants of coronary heart disease in 5,135 men and women who were offspring of the original Framingham cohort and their spouses. A recent analysis on the occurrence of blood pressure and its precursors in this cohort indicated that adiposity appears to be a major controllable contributor to hypertension.

Another study of this cohort showed detrimental changes in lipoprotein cholesterol profiles with weight gain. These findings have provided additional prospective evidence to suggest that habits developed during young adulthood, particularly those which influence relative weight, have a substantial effect on lipoprotein cholesterol profiles and blood pressure.

Many analyses are also currently underway using the Follow-up of the National Health and Nutrition Examination Survey (NHANES I). A publications committee to coordinate the scientific output from this project has received over 100 abstracts identifying projects to be done using this data. Intramural scientists from NCHS, FDA, NCI, NHLBI, NIADDK, NICHD, NIDR, NIA, and the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) are looking at the NHANES dietary data and initial follow-up data in order to test a number of hypotheses on the relationship of dietary practices to the incidence of diseases such as cancer, cardiovascular disease, obesity, osteoporosis, etc. as well as diet's effect on overall health and longevity.

Besides these prospective studies, a number of other long-term trials are underway. They include the Honolulu Heart Study (20+ years), the Puerto Rico Heart Study (15 years), the diet and breast cancer trials (5-10 years) and 26 long-term chemoprevention trials which are now underway looking at the effects of Vitamin A, Vitamin A analogues, beta carotene, Vitamin E and selenium on cancer incidence.

Two particularly noteworthy workshops and conferences have been held since 1981 to address the various aspects of nutritional status assessment. Such conferences have helped to expedite the transfer of nutrition technology to scientists and educators so as to assure the appropriate application of research in practice.

The Workshop on the use of the TOBEC (total body electrical conductivity) method for estimating body composition in human subjects was held on May 7, 1984 as one component of the "Workshop on Advances in Methodology for Estimating Human Body Composition." A number of NIH-supported investigators, as well as scientists from industry participated in this workshop.

In order to foster integration and support interactions among the seven NIH-supported Clinical Research Units (CNRUs), the NIH sponsors an annual meeting of the CNRU directors to discuss research progress and future research needs. The fifth annual meeting was held in conjunction with the second biennial Conference for Federally-Supported Human Nutrition Research Units and Centers sponsored by the Interagency Committee on Human Nutrition Research on January 14-15, 1985. The conference addressed two topics, both with significant implications for the collection and interpretation of data relevant to nutritional status monitoring: "the use of stable isotopes in human nutrition research" and "methods for measuring body composition." About 100 non-Federal and Federal scientists (including representatives from DHHS, USDA, AID, DOD, VA, NASA, and NSF) participated.

Plans for future multi-Institute attempts to examine and improve the accuracy and reliability of nutritional status measurements include a conference on "Anthropometric Standardization," which is jointly funded by NCI, NIADDK, and NICHD, and scheduled for October 18-19, 1985. It is expected that as a result of this conference, a manual for the standardization of skinfold measurements will be developed.

Such conferences have helped to expedite the transfer of nutrition technology to scientists and educators so as to assure the appropriate application of research in practice.

With respect to the first five of the six recommendations from the session on "recent advances in food consumption methodology" (see attached Table Nos. 6-10), two examples of NIH supported research underway exemplify the development of improved methods of obtaining and analyzing food consumption data are two studies supported by NCI: one is concerned with the development of a core dietary questionnaire, and the other is the development of an International Network of Food Data Systems (INFOODS).

The first project is an intramural study of the NCI in which a core questionnaire covering "Health Habits and History" has been developed for use by all studies, and supplemented by more specific questionnaires. In addition to the core questionnaire, a core dietary questionnaire has been developed which is a major step toward ensuring comparability of dietary intake data in a variety of clinical and epidemiological studies.

Another important project related to making food composition and thus dietary intake data more complete, accurate, and accessible has involved the development of the International Network of Food Data Systems (INFOODS). This project is being undertaken by a national as well as an international network of individuals actively working toward these goals. While major funding for this project is coming from NCI, and to a lesser extent from NHLBI, the United Nations University has agreed to provide administrative support. FDA and USDA are also actively involved with the INFOODS Programs.

International committees have been set up to work in the areas of terminology and data quality and international meetings have been scheduled for next year on the topics of terminology, data quality, and information systems. An INFOODS conference on user needs of food composition data was held in March of 1985 and efforts to update and extend the FAO bibliography of food composition data has already begun.

In addition, NCI investigators are looking at the NHANES II dietary data. Two papers on the "Nutrient Sources in the American Diet: Quantitation Data from the NHANES II Survey: I. Vitamins and Minerals, and II. Micronutrients and Fats" have recently been published in the *American Journal of Epidemiology*, vol. 122, #1, 1985. This analysis has involved an investigation of the various foods as nutrient sources of 18 nutrients in the American diet. The results from this analysis will be used in part to develop more useful dietary assessment questions.

In response to recommendation 11 (see attached Table 2), formerly the Joint Subcommittee on Human Nutrition Research (JSHNR) and currently the Interagency Committee on Human Nutrition Research (ICHNR) include the area of nutrition surveillance research in their research plans. This committee provides advice and coordination in the establishment of Federal human nutrition research activities, and currently is preparing the Five Year Comprehensive Federal Plan for Human Nutrition Research and Training (see also question 4).

TABLE 2. RECOMMENDATIONS

CONFERENCE ON THE ASSESSMENT OF NUTRITIONAL STATUS

Assessment of nutritional status in epidemiological studies and surveys of populations:

1) Applied public health research in nutrition, which takes advantage of methodology already developed in other disciplines that is useful for screening of individuals and for assessment and monitoring of populations, should be supported and encouraged by granting agencies;

2) Development of design methodology and assessment techniques appropriate for use in nutritional epidemiology should be supported and encouraged. In population studies the new area of methodology that should have the highest priority is methodology for measuring energy expenditure. This would make it possible to include this additional variable in equations designed to link nutritional inputs and performance outputs. Sometimes energy expenditure is a missing independent and sometimes it is a missing dependent variable.

3) High priority should be given to providing the support necessary so data collected in government surveys containing health and nutrition information can be made available rapidly for analysis and utilization.

4) The Public Health Service should investigate the feasibility of undertaking long-term studies to identify biologically significant relationships among nutrition, other variables and health impairment.

5) The Public Health Service should foster the exchange of data sets among agencies and scientists involved in studies of nutritional epidemiology. This will require research into how to determine what information must be passed along with the data to make the information useful.

Recent advances in food consumption methodology:

6) There is a need for research directed toward the development of improved methods of obtaining and analyzing food consumption data.

7) There is a need for integration of data on food consumption, health status, demographic characteristics, behavioral and particularly attitudinal measures.

8) Research is needed on analysis of existing data bases by scientists in both the public and private sector.

9) There is a need for improved methods for analysis of food composition, to include not only nutrient but environmental contaminants and nonnutrient constituents as well.

10) There is a need for increased effort to develop and maintain appropriate data bases and make these generally available on a timely basis to interested investigators.

11) There is a need for an ongoing advisory committee of individuals with expertise in the area of nutrition surveillance to provide advice and guidance in the establishment of research priorities.

Question #10

Please summarize the FY'86 plans of the CDC to provide technical assistance related to nutrition monitoring to State and local governments. What activities are in place, or planned, to promote nutrition monitoring networks and the development of regional, state, and local data collection services to become an integral component of a national nutritional status network?

Answer

CDC has a number of technical assistance and surveillance activities underway which are designed to promote and support nutrition monitoring activities and information networks at the regional, State, and local levels. Surveillance activities are coordinated at the regional level through Federal Regional Office nutrition personnel and CDC personnel attend regional level meetings aimed at the coordination of nutrition monitoring activities.

CDC activities in nutrition surveillance are focused primarily at the State level. Currently 31 States, the District of Columbia, and Puerto Rico participate in the Pediatric Nutritional Status Surveillance System. These surveillance systems utilize data which are routinely collected in service delivery programs such as height, weight, and indicators of anemia which can be used to characterize the prevalence of nutrition-related problems. The Pediatric Nutritional Status Surveillance System processes approximately 1.4 million records annually from about 2,400 service delivery clinics. The Pregnancy Nutritional Status Surveillance System processes approximately 75,000 records per year. Quarterly reports from these surveillance systems are sent to participating States showing the prevalence of specific nutrition-related problems among children and pregnant or lactating women. Technical assistance is provided by CDC professionals in the statistical management and analysis of the surveillance data, the development of quality control procedures to achieve proper measurement standardization, and in the interpretation and application of the data to define groups at increased nutritional risk and to plan nutrition-related interventions and services. This technical assistance is accomplished through workshops and site visits to the States by CDC personnel.

CDC surveillance activities at the local level are accomplished through the extensive contacts with State nutrition and health personnel. The reports of the prevalence of nutrition-related problems include tabulations which show the prevalence of nutrition-related problems for each participating clinic and for groups of clinics forming subregions within the States. These tabulations allow definition of nutrition-related problems at the local level. Also, local health personnel are included in the State-level workshops and seminars so that the technical assistance activities of CDC reach personnel working at the community level.

Planned activities for FY'86 include the addition of at least three States to the Pediatric Nutritional Status Surveillance System, plus an expansion of coverage within several States already participating.

Pregnancy nutritional status surveillance will be extended to at least one additional State and coverage will be expanded within at least five of the States currently participating. A revised and expanded format for the nutrition surveillance reports will be implemented which will provide a broader range of data useful for the assessment and monitoring of nutrition-related problems in the population under surveillance. Also a manual will be provided to assist State and local health personnel in interpreting and applying these surveillance data.

The CDC nutrition surveillance activities play an important role in the National nutritional status network by monitoring the nutritional status of low income populations, and by providing data on a monthly, quarterly, and annual basis which are specific to the State and local level. CDC works with universities and schools of public health through cooperative agreements to undertake specific studies to evaluate the representativeness of surveillance data. Moreover, CDC coordinates its monitoring activities with other PHS agencies at the National level through the Nutrition Policy Board of the Office of the Assistant Secretary for Health and undertakes joint efforts such as laboratory support to the National Health and Nutrition Examination Surveys of the National Center for Health Statistics and the development of reference standards for the evaluation of nutrition data. In these ways, CDC's activities are designed to form an integral component of the National nutritional status network.

Question #11

What Department is responsible for monitoring the nutritional adequacy and quality (versus the nutrient availability) of the food supply? Please describe the procedures used.

Answer

The Department of Health and Human Services (DHHS) and the Department of Agriculture (USDA) share the responsibility of monitoring the nutritional adequacy and quality of the food supply. Through studies on food usage, household food consumption, and individual food consumption, USDA estimates food and nutrient per capita availability and food and nutrient intakes by age-sex-income-race groups. Such measurements provide a reasonable assessment of quality and adequacy of the food supply. USDA also has jurisdiction over the safety, quality, and labeling of meat, poultry, and eggs and products containing meat, poultry, and eggs.

Within DHHS, the National Center for Health Statistics (NCHS) conducts the NHANES (National Health and Nutrition Examination Surveys) to determine the dietary, nutritional, and health status of the U.S. population and population subgroups. The NHANES include 24-hour dietary recalls; clinical, biochemical and anthropometric measurements; and questionnaires concerning health status and medical history. These data are essential in assessing the nutritional status of the population and population segments and thus provide the ultimate assessment of the nutritional quality and adequacy of the food supply.

Also within DHHS, the Food and Drug Administration's (FDA) Center for Food Safety and Applied Nutrition has major responsibility for the safety and nutritional quality of the food supply. The FDA uses food analyses data and information generated through compliance, surveillance and research programs along with food consumption and health status data generated by USDA and NCHS surveys to make regulatory decisions regarding: the use of food additives; nutrient fortification; food and nutrient labeling; manufacturing practices; food packaging; and food ingredients.

Thus, the responsibility for monitoring the nutritional adequacy and quality of the food supply is shared among several agencies, with the FDA having the major responsibility for the safety and nutritional quality of the food supply.

Question #12

Please give a progress report on the dates that data analyses and interpretation were, or will be, completed for NHANES I, NHANES II, and Hispanic HANES (HHANES).

Answer

The National Center for Health Statistics disseminates the results of its surveys through Center reports, public use data tapes, and articles in scientific journals. Attached to this response is a selected list of the reports and data tapes issued from NHANES I and II on nutrition and related health measurements. As a result of staff efforts and analyses conducted by researchers using public use data tapes, countless articles based on HANES data have appeared in the scientific literature.

In 1984, three reports on iron, zinc, and folate nutritional status were published by the Federation of American Societies for Experimental Biology (FASEB). The data source was the NHANES II. A report on the Vitamin A nutritional status, using data from NHANES I, II and HHANES, will be released in the Fall of 1985. These reports are the result of collaboration by FASEB, FDA, CDC and NCHS.

The first major release of HHANES data will occur as nine presentations at the November 1985 meeting of the American Public Health Association (APHA) in Washington. The topics to be covered in the presentations include the following:

- Children's health
- Lead levels of children
- Iron status of children
- Women's reproductive health
- Utilization of health services by adults
- Overweight
- Smoking
- Hypertension
- Serum cholesterol levels

As complete data from a given component of the HHANES become available and the necessary staff time is available to assemble the detailed documentation necessary for a public release data, the data tapes will be sent to NTIS for distribution. Public use data tapes from the Southwest will be available at the end of 1985, and data tapes from the rest of the HHANES will probably become available by the end of 1986. The completion of the initial phase of the NHANES I Epidemiologic Follow-up Survey has led to renewed interest in analysis of NHANES I data. The availability of mortality and morbidity data on the adults examined 10 years ago means that new types of analyses can be conducted. Over 120 abstracts have been prepared by groups planning to analyze the NHANES I and NHANES I Epidemiologic Follow-up data. As is illustrated in this instance, it is impossible to identify a fixed date upon which data analysis and interpretation from these surveys is "completed", since researchers may find additional uses for the data as specific needs arise.

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PUBLIC USE DATA TAPES CONTAINING DATA ON NUTRITION AND RELATED HEALTH MEASUREMENTS FROM THE NATIONAL CENTER FOR HEALTH STATISTICS*

National Health and Nutrition Examination Survey/Cycle I, 1971-75

The first NHANES program (NHANES I) was conducted from 1971-75 on a sample of the U.S. population aged 1-74 years. Four different kinds of data were collected to make this nutritional assessment: (1) dietary intake information, (2) hematological and biochemical tests, (3) body measurements, and (4) clinical assessments. Some limited information on general health status, health care needs, and treatment was also obtained. The information included examination findings and medical history on eye conditions, skin conditions, and dental health. Further data on health status and medical care needs were obtained through more detailed examinations and history for a subsample of adults aged 25-74 years. Particular concentration was given to cardiovascular, respiratory, arthritic, and auditory conditions.

NHANES I Medical History, Ages 12-74	PB-296 073/HAI
NHANES I Detailed Medical History, Health Care Needs and Supplements on Cardiovasculary & Respiratory	PB-296 029/HAI
NHANES I Anthropometry, Bone Density, Cortical Thickness, and Skeletal Age	PB-295 903/HAI
NHANES I Medical Examination, Ages 1-74	PB-296 035/HAI
NHANES I Biochemistry, Serology, Hematology, Peripheral Blood Slide and Urinary	PB-297 344/HAI
NHANES I Dietary Frequency and Adequacy, Ages 1-74	PB-295906
NHANES I A. Model Gram, B. Nutrient Composition	PB-296027
NHANES I 24-Hour Food Composition Intake, Ages 1-74	PB-297339

National Health and Nutrition Examination Survey/Cycle II, 1976-80

This survey was designed to measure and monitor the nutritional status and health of the U.S. population ages 6 months through 74 years. Data were collected by means of a household questionnaire, medical histories, dietary questionnaires, a physical examination, spirometry trials, electrocardiograms, body measurements, pure tone audiometry, speech, allergy tests, x-rays, a medication/vitamin usage questionnaire, a behavior questionnaire and laboratory analyses of blood and urine samples.

NHANES II Anthropometric Data	PB82-191917/HAI
NHANES II Biochemistry & Hematology	PB82-253152/HAI
NHANES II Medical History, Ages 12-74 Years	PB83-154815/HAI
NHANES II Medical History Supplement, Ages 12-74 Years	PB83-256537/HAI
NHANES II 24-Hour Recall/ Specific Food Item	PB82-142639
NHANES II Total Nutrient Intake Food Frequency/and other Related Dietary Data	PB82-168261
NHANES II Model Gram and Nutrient Composition	PB82-142613

*Available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 or call (703) 487-4807.

APPENDIX 5

THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985 (H.R. 2436)

JUNE 25, 1985

FOLLOW-UP QUESTIONS FOR THE DEPARTMENT OF AGRICULTURE REQUESTED BY THE SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY, COMMITTEE ON SCIENCE AND TECHNOLOGY

Question 1. H.R. 2436 establishes an intergovernment Science Board for Nutrition Monitoring and Related Research to facilitate the management and implementation of the coordinated program. Could the present Interagency Committee on Human Nutrition Research assume the functions of the Intergovernment Science Board for Nutrition Monitoring and Related Research? Please explain. What federal agencies are members of the Interagency Committee on Human Nutrition Research?

Answer: It is believed that the establishment of an Intergovernmental Science Board for Nutrition Monitoring and Related Research, or similar body, would create a cumbersome management structure likely to delay the Department in achieving its monitoring goals. However, if the Congress would mandate that such a body be established, the Interagency Committee on Human Nutrition Research could provide effective consultation with respect to the coordination of related research through the formation of an appropriate subcommittee for this purpose, but this committee is not structured to deal with the non-research aspects of nutrition monitoring.

It should be pointed out that much of the human nutrition research conducted by ARS relates to the monitoring activities of HNIS and DHHS. For example, the Nutrient Composition Laboratory at the Beltsville Human Nutrition Research Center maintains a very close partnership with HNIS. The methods for nutrient analysis and much of the food composition data are provided to HNIS by ARS. The National Nutrient Data Bank maintained by HNIS is the primary source of data on the nutrient content of foods used by HNIS and DHHS for calculating nutritional adequacy of diets by population subgroups. ARS findings on bioavailability of nutrients in foods and on nutritional requirements are of direct value to both HNIS and DHHS in nutrition monitoring. In addition, the research on developing improved and more sensitive methods for assessing marginal nutritional status at the Western Human Nutrition Research Center in San Francisco relates directly to the monitoring needs of FNS and DHHS. Periodic meetings are held between ARS scientists and FNS users as a means of strengthening this coordination.

The Interagency Committee on Human Nutrition Research also sponsored a conference in January 1985 to foster interagency communication in the areas related to nutrition monitoring. It is felt that the efforts underway to strengthen the system of coordinating research related to nutrition monitoring will not be improved by creating another oversight group.

The member Federal agencies in the Interagency Committee on Human Nutrition Research include the U.S. Departments of Agriculture, Commerce, Defense, and Health and Human Services; Agency for International Development; National Aeronautics and Space Administration; National Science Foundation; and Office of Science and Technology Policy.

2. With respect to complexity, multi-agency responsibility and coordination, nutrition monitoring is similar to biotechnology. Could the federal organizational structure proposed by the Office of Science and Technology Policy for coordination of federal biotechnology activities be used as a model for the coordination of federal nutrition monitoring activities? What organizational arrangement for coordination of federal nutrition monitoring activities would you recommend?

Answer: In an attachment to my June 25, 1985 testimony for the record, I outlined the Mechanism for Management and Oversight of the National Nutrition Monitoring System (NNMS) that we are operating under and that we recommend. This mechanism calls for USDA's Assistant Secretary for Food and Consumer Services and DHHS's Assistant Secretary for Health to be co-managers of the system. The mechanism seems to be working well to advance the NNMS in a sequential and effective way; therefore, other mechanisms, such as the involvement of the Office of Science and Technology Policy, have not been explored.

3. You indicated the 1981 Joint Implementation Plan for National Nutrition Monitoring is being extended from 1987 to 1992. When will the extended plan be completed? How frequent was the 1981 plan revised to reflect budgetary and other circumstances which modified the original plan? Please submit revisions for the records.

Answer: Based on meetings with NHANES staff, recommendations from advisory groups, and Departmental data needs, HNIS staff has developed a tentative plan to extend to 1992 HNIS activities that fall under the Joint Implementation Plan. DHHS is currently developing a similar plan. The two Departments will finalize a joint plan this fall.

Changes made in the original 1981 Joint Implementation Plan are as follows:

- The proposed USDA study "Longitudinal Study of the Effects of Infant Feeding Practices on Morbidity and Growth in the First Year of Life" was dropped.
- The proposed joint pilot program to test coordination of the NFCS and NHANES was dropped because two studies conducted in 1983-84 provided detailed recommendations on ways to improve coordination; the joint pilot program would not have provided any new information. These two studies were conducted by the NAS/FNB and by a committee of statistical and sampling experts. The two Departments are holding regularly scheduled meetings to discuss implementation of recommendations from these studies.
- NHANES III has been delayed until 1988 because of funding.
- A pilot test of methods for collecting dietary data from low-income populations, requested by Congress, was helpful in identifying suitable methods for a survey of intakes being conducted in conjunction with the Continuing Survey of Food Intakes by Individuals.
- At the request of Congress, USDA conducted a study of household food use in Puerto Rico after the discontinuation of the Food Stamp Program there.

Question 4. In July, 1982 the President's Science Advisor accepted the responsibility of developing a federal 5-year Comprehensive Plan for Human Nutrition Research. Will that plan include nutrition monitoring and related research? What agency is responsible for coordinating the development of the plan. What mechanism has been used to obtain recommendations for research priorities from other federal agencies, the private sector, the academic community, and scientific societies? How long has the development of the plan been in progress and when will it be submitted to the Congress?

Answer: Yes, the 5-year Comprehensive Plan for Human Nutrition Research includes nutrition monitoring and related research. The Interagency Committee on Human Nutrition Research is responsible for coordinating the development of the 5-year research plan; No single agency is responsible, but rather the cochairs of the Interagency Committee.

Recommendations for research priorities were obtained from all Federal agencies involved in Human Nutrition research through their representative(s) on the Interagency Committee on Human Nutrition Research. Letters in behalf of the Interagency Committee were sent to 104 non-Federal scientists seeking their suggestions and input as to priority human nutrition research needs. These included scientists from the private sector, academia, scientific societies and industry. Several instruments have been considered for indicating priority research needs by the Interagency Committee. The initial stages of the work on the 5-year human nutrition research plan was begun in November 1983 by the Interagency Committee on Human Nutrition Research. It is anticipated that the 5-year Human Nutrition Research Plan can be completed in 1985.

5. For the last several years, the USDA and DHHS testified that the Joint Nutrition Monitoring Evaluation Committee would be expanded to six or eight members to include representation from the public and private sector. What is the current membership of the Joint Evaluation Committee? Who is the Chairman of the Joint Evaluation Committee and how frequently did the Chairman participate in the activities of the Committee?

Answer: The current membership of the Joint Nutrition Monitoring Evaluation Committee is as follows: Dr. Jean-Pierre Habicht, Cornell University; Dr. Theodore B. Van Itallie, Columbia University and St. Luke's Roosevelt Hospital; Dr. Helen A. Guthrie, Pennsylvania State University; and Dr. Stanley R. Johnson, Iowa State University. Co-chairs of the Committee are USDA Assistant Secretary for Food and Consumer Services and DHHS Assistant Secretary for Health. The Co-chairs participated in the first meeting of the Committee, defining the objectives and tasks. They designated Dr. Susan Welsh and Dr. Catherine Woteki to provide the Committee with support. Drs. Welsh and Woteki and other assigned Departmental staff represented the Co-chairs by attending Committee meetings, reviewing and commenting on drafts of the report, and keeping the Co-chairs informed of progress.

6. What are the specific advantages and disadvantages of beginning the Nationwide Food Consumption Survey in 1987 and beginning the National Health and Nutrition Examination Survey in 1988? What are the long-range implications of beginning the two surveys in different years?

Answer: There are no disadvantages of beginning the two surveys in different years. As proposed, the USDA's CSFII (Continuing Survey of Food Intakes by Individuals) will provide continuous data throughout the 6-year period of NHANES III and can be used to link NFCS-87 and NHANES III for certain sex/age groups. In the long term, the 24-hour recall methodology for USDA and DHHS dietary surveys will be made more comparable and the year in which surveys are conducted will no longer be an issue.

7. The National Academy of Sciences report on National Survey Data on Food Consumption: Uses and Recommendations states, "USDA has proposed a continuous system to monitor and report on the food consumption and dietary intake of women aged 20-50 and their children; other high-risk groups, such as the elderly, might be added to the panel.---Therefore, the Committee does not believe that the panel approach is as likely to be as efficient as a continuous sampling to detect changes in the food consumption patterns of subsections of the population that cannot be well identified beforehand. The Committee recommends redesign of the Individual Dietary Intake component of the NFCS. Instead of an intermittent 1-year survey of a large sample, the Committee suggests an annual survey that would distribute the total sample over a number of years. A design that provides for the collection and processing of data from 20% of the full sample per year has been suggested."

Please describe how this recommendation was implemented. If the recommendation was not accepted, please explain why? What are the advantages and disadvantages of the panel approach and the moving average approach to continuous data collection? What are the cost/benefit advantages and disadvantages of the panel approach and the moving average approach to continuous data collection?

Answer: The NAS/FNB recommendation has been implemented as follows:

- The recommended continuous survey began in 1985. Rather than distribute the total sample over a number of years as recommended, the USDA is surveying a national sample of women and children each year. This "core monitoring group" is needed to signal changes on a year-to-year basis and to provide the first results in 1985 instead of 1988. With a 3 to 5 year moving-average, changes would not show up for several years. The use of the core monitoring group also responds to another NAS/FNB recommendation--to do repeated surveying of individuals over a 1-year period to provide for statistical analyses of intraindividual variability.
- The use of the moving-average concept recommended in the NAS/FNB report is proposed for implementation in 1988 for sex-age groups other than those in the core monitoring group. The combination of the national core group sample and the moving-average sample for other sex-age groups will provide statistical reliability and timely results better than one sample alone.

- The Individual Intake component will be retained in the NFCS-87 to permit an evaluation between data from the smaller continuing survey and that from the larger decennial survey. If this evaluation shows that the continuous survey can provide adequate information, the individual portion of the NFCS-97 will be dropped.

Question 8. At last year's hearing USDA and DHHS testified that the Human Nutrition Research Information Management System mandated by the 1981 Farm Bill was fully operational. The system has at least two categories relating to nutrition monitoring, i.e., nutritional status and food consumption surveys. Please submit for the record a print-out of the expenditures in each of the categories relating to nutrition monitoring, by each agency, for FY 1983, 1984, and 1985.

Answer: The USDA research related to nutrition monitoring for FY 1983 by agency is summarized in the attached table and shown in more detail in the attached computer printouts. The FY 1985 data will not be available until about June 1986. The FY 1984 data has been held up due to a delay in fiscal information from ARS. It is expected that the FY 1984 data will be complete by September 1985. A summary of the FY 1984 data will be provided at that time.

Although the Human Nutrition Information Research Information Management System is operational, the data from HNIS was not complete for FY 1983. This is primarily due to the fact that the Interagency Committee did not include certain types of nutrition monitoring activities as research until sometime in 1984. Since these projects were not included in the 1983 HNRIMS data tape, a separate summary of HNIS research has been prepared and is attached.

Summary of FY 1983 Research Related to Nutrition Monitoring by USDA Agencies*

AREA	ARS	CSRS	CRGO	HNIS	TOTAL
	(thousands of dollars)				
Nutrient composition	2,521	1,988	129	679	5,317
Bioavailability of nutrients	6,609	1,014	133	---	7,756
Food consumption, dietary practices	571	2,018	---	1,709	4,298
Nutritional requirements	10,632	272	190	---	11,094
Nutritional status	5,382	1,528	218	---	7,128

*The same research project may be included in more than one research area as multiple coding is used in HNRIMS. Hence it is inappropriate to sum values for more than one research area.

9. In 1981, DHHS sponsored a conference on the Assessment of Nutrition Status which resulted in eleven recommendations for nutritional status and food consumption surveys and research. Please submit for the record, each recommendation accepted by USDA, how and when the recommendation was implemented, and the contribution of the outcome to the National Nutrition Monitoring System. If a recommendation was not accepted or implemented, please explain why?

Answer: The conference "Assessing Changing Food Consumption Patterns," was undertaken by the Committee on Food Consumption Patterns, Food and Nutrition Board, National Research Council at the request of the Food and Drug Administration (FDA), DHHS. The recommendations resulting from this conference were designed to meet the special needs of FDA. Several of the recommendations are in areas that are beyond research responsibilities of the USDA. However, with respect to "Subsystem 1--Food Intake of Individuals" the Department has either implemented or has under consideration each of the six recommendations.

(1) The principle recommendation relative to food intakes was for a continuous collection, processing, and review of food intake data from a stratified probability sample of the U.S. population. The Department, in the 1981 Joint Implementation Plan, stated its intent to initiate a continuing survey; the survey began in April 1985 following 2 major methodological studies to determine the most appropriate method for this type of data collection.

(2) The Committee recommended a 5-year timeframe (a moving 5-year average). The USDA's continuous survey has been implemented with a nationally representative sample for a "core monitoring group". This core monitoring group will provide information on year to year changes in food consumption patterns. In 1988, the USDA will propose going to the moving-average concept for sex/age groups not covered in the core monitoring group. A nationally representative sample would be achieved in 2-5 years depending on the sex/age group, region, or other classification. Data would be reported as moving-averages with the earliest year dropped as each new year is added.

(3) The Committee recommended that better efforts be made to measure usual intake by obtaining four replicated 24-hour recalls on the same individual during a one year period. Methodological studies conducted by USDA between 1981 and 1984 tested the possibility of obtaining up to 12 days of intake data from the same individual over a year's period of time. Results showed that the maximum number of days of data that can be obtained without significant drops in response rates is six. Preliminary analyses indicate that, for most nutrients, 4-6 days of data is a sufficient indicator of usual intake. As a result, six days of intake data are being obtained from the core monitoring group in the USDA continuing survey.

(4) The Committee recommended that a group experienced in sampling should design an optimal sampling frame. Sampling experts in HNIS, as well as those in the Statistical Research Service/USDA design and review each sampling frame that is used for nationwide surveys.

(5) The Committee recommended that the nutrient data base must be maintained in a format that permits recalculation of intakes. The nutrient data bases developed for the CSFII and NFCS are derived from information contained in USDA's National Nutrient Data Bank (NDB) and its primary data tape called "The USDA Nutrient Data Base for Standard Reference." The NDB system documents all recipes, takes into account retention and yield factors, and contains information on food analyses such as the number of samples, variances, and whether or not data are derived from actual analyses or by imputation. As this data base is revised, as new food composition data become available, and as new food products appear, the changes will be documented so that reanalysis can be undertaken.

(6) The Committee recommended that the descriptors of consumed foods (food codes) in the data base files must be sufficiently precise to allow answers for questions that may be posed at a later time. The Department has spent considerable time in revising and redesigning the food coding system that will be used for CSFII, NFCS-87, and NHANES III. We are also attempting to obtain Brand names for all foods consumed at home as well as the type of fat and oils utilized in preparing meals at home. In addition, we are looking at an alternative food coding system to determine if it would reduce the time needed to code food intake data, enchance standardization among surveys, and increase data accuracy. We propose that the coding system be one of the key issues of the Joint Data Users Conference to be sponsored by the USDA and DHHS and planned for 1988-89.

10. The Nationwide Food Consumption Survey has been conducted approximately every ten years. What caused the 12-year span between the 1965 and the 1977 surveys? How frequently do you plan to conduct the household portion of the NFCS and do you plan for continuous data collection?

Answer: The 1977 NFCS was delayed two years because of funding limitations and because methodological research took longer than expected. The next NFCS, which is planned for 1987 and then every 10 years after that, will include both household and individual intake data. Continuous data collection, as in the Continuing Survey of Food Intakes by Individuals, will cover individual intake only.

11. What Department is responsible for monitoring the nutritional quality and adequacy (versus the nutrient availability) of the food supply? Please describe the procedures used.

Answer: The U.S. Department of Agriculture is responsible for estimating the food and nutrient content of the U.S. per capita food supply annually. These statistics represent food and nutrient availability. USDA also monitors the nutritional quality and adequacy of food supplies as selected and used in U.S. households and of food intakes (at home and away from home) by individual household members through national surveys. Household food use for a week is measured through a list-recall questionnaire administered by interviewers in decennial surveys. Individual intakes are measured for 3 consecutive days (a 24-hour recall and a 2-day record) in the decennial surveys and for 6 days spread over a year in a continuing survey of a core monitoring group started in April 1985. Nutrient levels of U.S. food supplies and of household food use and individual food intakes from USDA surveys are calculated using the nutrient content of foods from USDA's National Nutrient Data Bank.

DHHS's Food and Drug Administration, in its Total Diet Studies, conducts analyses to determine the nutrient content and residue levels (of standard) market baskets of foods purchased and prepared in different parts of the country. The kinds and amounts of foods in the market baskets reflect consumption as indicated by USDA's NFCS and DHHS's NHANES.

REVISED ANSWER TO FOLLOW-UP QUESTION 9
TO THE JUNE 25 HEARING ON THE
NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT

9. In 1981, DHHS sponsored a conference on the Assessment of Nutrition Status which resulted in 11 recommendations for nutritional status and food consumption surveys and research. Please submit for the record each recommendation accepted by USDA, how and when the recommendation was implemented, and the contribution of the outcome to the National Nutrition Monitoring System. If a recommendation was not accepted or implemented, please explain why.

Answer: The conference, Assessment of Nutritional Status, reported in the May 1982 American Journal of Clinical Nutrition, presented five recommendations on the assessment of nutritional status in epidemiologic studies and surveys of populations and six recommendations on recent advances in food consumption methodology.

Recommendations for assessment of nutritional status in epidemiologic studies and surveys of populations

These five recommendations are directed primarily to the Public Health Service and focus on biological and health measures. USDA's objective in implementing these recommendations is to design national dietary surveys and questionnaires so that results can be linked to biological and health measures to the extent practical. USDA also conducts research, through the Agricultural Research Service's Human Nutrition Research Centers, directed toward this topic.

Recommendation 1

Applied public health research in nutrition, which takes advantage of methodology already developed in other disciplines that is useful for screening of individuals and for assessment and monitoring of populations, should be supported and encouraged by granting agencies.

Implementation: USDA has strongly encouraged and supported research that is useful for screening individuals and for assessment and monitoring of populations through its system of competitive grants, mission-oriented grants and cooperative agreements and through its intramural research program. The above have been ongoing programs within the Agricultural Research Service (ARS) intramural and mission-oriented grants, and cooperative agreements system since the early 1960's. Additional support for these programs has been made through the Competitive Grants Office of USDA since 1978.

In cooperation with the Food and Nutrition Service, ARS is currently conducting research on newer methodology to assess dietary intake and anthropometric indices of infants and children to age 5. These newer indices are required for screening and assessing WIC and other programs of FNS.

Recommendation 2

Development of design methodology and assessment techniques appropriate for use in nutritional epidemiology should be supported and encouraged. In population studies the new area of methodology that should have the highest priority is methodology for measuring energy expenditure.

Implementation: In 1980, ARS and USDA instituted a program to develop newer methodology for assessing energy intake as well as energy expenditure in human subjects under varying physiological conditions. Each of the Human Nutrition Research Centers in the intramural research program have set up classical approaches for study of energy metabolism such as whole body direct calorimetry and indirect calorimetry techniques to serve as accepted standards for comparison to newer techniques of assessing energy balance. The contribution of the outcome of these research projects will ultimately lead to simplified, standardized methods that can be used in the field to assess individuals and population groups.

Recommendation 3

High priority should be given to providing support so that data from Government surveys containing health and nutrition information can be available rapidly for analysis and utilization.

Implementation: This recommendation applies to our surveys as well as those providing health and nutrition examination data. Provision of food and nutrient consumption data in a timely manner is a continuing concern. Examples of implementation follow:

o As a first priority, all data collected in food consumption surveys and the contribution of 14 nutrients by each food have been reported in machine-readable form through the National Technical Information Service. This makes data in its most complete form available immediately for analysis and use.

o Developed improved and more rapid methods for collecting, screening, coding, and processing data from surveys.

o Initiated a Continuing Survey of Food Intakes by Individuals (CSFII) (Spring 1985) to provide national dietary data between the more comprehensive Nationwide Food Consumption Surveys (NFCS). Through improved techniques and planning, the reports on the first wave of this survey will by released within months of data collection.

Recommendations 4 and 5 are directed to the Public Health Service.

Recommendations for food consumption methodology

Recommendation 1

Develop methods of obtaining and analyzing food consumption data.

Implementation: A list of 14 methodological studies related to surveys of dietary intakes of individuals that have been conducted by USDA since the Nationwide Food Consumption Survey 1977-78 follows:

1. Recommended Survey Design for Validation of Findings of Nationwide Food Consumption Survey (NFCS) 1977-78
   By Survey Design, Inc., Silver Spring, MD
   Joseph Steinberg, President
   1977

2. Further Validation of Results from the 1977-78 Nationwide Food Consumption Survey:
   I. Group Sessions to Explore Methodology for Future Surveys--Alternative Food Measurement Procedure (Report November 1978)
   II. Mail Debriefing of Interviewers (Report May 1979)
   III. Participant Followup Surveys (Report May 1980)
   By National Analysts, Philadelphia, PA
   Dr. Lucy Wilson, Study Director
   1978-1980

3. Effect of Food Item Specificity on Mean Nutrient Intake Values Reported in Different Sex-Age Groups
   By University of Missouri-Columbia, Columbia, MO,
   Dr. Loretta Hoover, Principal Investigator,
   1980-1982 Final Report 1982

4. Comparison of Data From Nationwide Food Consumption Survey 1977-78 and National Health and Nutrition Examination Survey I 1971-74
   By University of Michigan, Ann Arbor, Michigan
   Dr. Frances Larkin, Principal Investigator
   1981-1983 Final report, December 1983

5. Study of Food Intake of Men, 1981-1982
   By University of Maryland, College Park, MD
   Dr. Mary Alice Caliendo, Principal Investigator
   1981-1983 Final report, December 1983

6. The Food Loss Project: Methodologies for Estimating Household Food Losses
   By University of Arizona, Tuscon Arizona
   Dr. Gail Harrison and Dr. William Rathje, Principal Investigators
   1981-1983 Final Report December 31, 1983

7. Exploratory Study of Longitudinal Measures of Individual Food Intake
   By National Analysts, Philadelphia, PA
   Dr. Lucy Wilson, Study Director
   1981-1984 Final Report: May 1984

8. Further Analysis of "Exploratory Study for Longitudinal Measures of Individual Food Intake"
   By University of Missouri-Columbia, Columbia, MO
   Dr. Stanley Johnson and Dr. Karen Morgan, Principal Investigators
   1983-1984 Final Report 1984

9. One-day and 3-day Nutrient Intakes by Individuals: Nationwide Food Consumption Survey Findings, Spring 1977
   By FCRB, NMD, HNIS, USDA
   E.M. Pao, S.J. Mickle, and M.C. Burk
   Published in Journal of American Dietetic Association 85:313-324, (March) 1985

10. Pilot Study of Measures of Individual Food Intakes of the Low-Income Populations Phase I
    By Westat, Inc., Rockville, MD
    Renee F. Slobasky, Officer-in-Charge
    1983-1985 Draft final report July 1985

11. Development of a Shortened Nutrient Data Base for Dietary Surveys
    By University of Missouri-Columbia, Columbia, MO
    Dr. Loretta Hoover, Principal Investigator
    1983-1985

12. Analyses of Food Consumption Patterns and Diet Status: Methodology Studies
    By University of Missouri-Columbia, Columbia, MO
    Dr. Stanley Johnson and Dr. Karen Morgan, Principal Investigators
    1983-1985

13. Development and Validation of a Food Frequency Questionnaire
    By University of Michigan, Ann Arbor, MI
    Dr. Frances Larkin, Principal Investigator
    1983-1986

14. The Validation and Increased Accuracy of NFCS Procedures
    By University of Arizona, Tucson, Arizona
    Dr. William Rathje, Principal Investigator
    1985-1986

These studies have been basic to the establishment of methods for collecting dietary data in the Continuing Survey and the Nationwide Food Consumption Survey 1987. Results are shared with National Health and Nutrition Examination Survey (NHANES) staff. Also, cooperative studies involving the use of computers in the dietary data collection interview are planned. USDA has sponsored several other studies that will lead to improved analysis of food consumption data:

- o Use of indepth analytical techniques for showing the relationship of socioeconomic and other factors to food and nutrient intakes (Investigators at universities in Arizona, Hawaii, Missouri, Michigan, North Carolina, Pennsylvania, Virgina, and Washington)
- o Development of guidelines for interpreting nutrient levels in diets reported in surveys that are below the Recommended Dietary Allowances (Food and Nutritin Board 1983-85)
- o Workshops (regional) to help users of data to understand and use survey data on tapes correctly (Planned for early 1986)
- o Research being conducted in the Agricultural Research Service, specifically at the Western Human Nutrition Research Center, utilizes a computerized food scale for direct and reliable determination of food intake. Because the newer technique measures actual food intake and because the system is being designed to be simple, accurate, and totally automated, the research program will have a profound beneficial effect upon future nutritional status assessment programs.

Recommendation 2

Integrate data on food consumption, health status, demographic characteristics, behavioral, and particulary attitudinal measures.

Implementation: We have circulated draft survey plans and questionnnaires to a wide mailing of persons who conduct surveys and/or use the data. They have been asked to help in identifying areas of comparability and cross-walking with other surveys (1984 and 1985). Numerous meetings have been and will be held with NHANES staff and with USDA's Food and Nutrition Service regarding variable identification and other concerns about comparability, practicality, and usefulness of results (1982 to present). We do not collect data on attitudes, except occasionally as related to dietary guidance evaluation, and have not attempted to integrate our surveys with surveys that collect such information.

Recommendation 3

Analyze existing data bases by scientists in both the public and private sector.

Implementation: We have supported indepth comparative studies of NHANES I and NFCS data (University of Michigan, 1981-83) and of Bureau of Labor Statistics Consumer Expenditure Surveys and NFCS data (University of Wisconsin, 1980-84). We have not used data bases by the private sector because of their high costs and proprietary nature.

Recommendation 4

Improve methods for analysis of food composition to include not only nutrients but environmental contaminants and nonnutrient constituents as well.

Implementation: The Agricultural Research Service has a laboratory, located at Beltsville, Md., devoted to methods for analysis of foods for their nutrient content. Traditionally, USDA has been responsible for nutrient contents of food while the Food and Drug Administration has been responsible for non-nutrients, such as additives and toxicants. Although some nonnutritive components such as cholesterol and dietary fiber are appropriate for USDA concern, we believe this basic division of responsibility has worked well and should be maintained. This does not rule out the possibility of ensuring that FDA files on nonnutritive components of foods are compatible with those in our National Nutrient Data Bank. The Nutrient Composition Laboratory at Beltsville does collect environmental contaminant data and non-nutrient data from foods analyzed.

Recommendation 5

Increase effort to develop and maintain appropriate data bases and make this generally available on a timely basis to interested investigators.

Implementation: USDA provides a variety of data bases on the nutrient content of foods and on food consumption (and its nutrient contribution) and other data collected in its national surveys. A new nutrient data tape for use in computing the nutrient content of diets is being completed for use in Hispanic Health and Nutrition Examination Survey (HHANES) and CSFII. It will contain 28 dietary components--increased from 14 in NFCS 1977-78. All tapes are available through the National Technical Information Service.

Recommendation 6

Establish an ongoing advisory committee of individuals with expertise in area of nutrition surveillance to provide advice and guidance in establishment of research priorities.

Implementation: The Joint Nutrition Monitoring Evaluation Committee, established in October 1983 by USDA and DHHS, serves this purpose. Another committee provided a review of dietary data uses and made recommendations for filling data needs of users (1984) and yet another is addressing the appropriate interpretation of dietary data collected (1985).

In addition to these, USDA has instituted the Human Nutrition Board of Scientific Counselors which is congressionally mandated and which serves as an advisory group on human nutrition research to the Secretary of Agriculture. Each Human Nutrition Research Center designates ad-hoc advisory groups of scientists with expertise in the various areas of nutrition research including nutritional surveillance.

THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1985
(H.R.2436)

JUNE 25, 1985

FOLLOW-UP QUESTIONS FOR THE DEPARTMENT OF AGRICULTURE
REQUESTED BY CONGRESSMAN BILL EMERSON, RANKING MINORITY MEMBER
SUBCOMMITTEE ON DOMESTIC MARKETING, CONSUMER RELATIONS, AND NUTRITION
COMMITTEE ON AGRICULTRUE

QUESTIONS ON NUTRITION MONITORING - HEARING ON H.R. 2436

Mr. Emerson: You say that this bill will cost an additional $15.5 million a year for information on diets alone, Mr. Bode. What would we get for our money?

Mr. Bode: These funds, which are an approximation only, would provide for increased survey activities; increased research on survey methodology, dietary status indicators, and food composition; and increased staff for monitoring efforts. The vast majority of the funds would be used to obtain on a yearly basis nationwide data on the diets of individuals. This would replace current activities which consist of a national sample only once every ten years and smaller special purpose surveys collected yearly or as requested. In addition to a yearly national survey, the funds would permit special surveys on one or two population groups at high risk and either the military or institutionalized population (not both). Expanded research would include studies to fill gaps in the nutrient data base (food composition data), studies directed toward needs of States and localities, and methodological studies to improve survey collection and evaluation of data.

The expanded survey activities would require approximately 20-30 additional staff (FTE). This would also permit us to expand our assistance to State and local governments through workshops and consultations.

While the additional expenditure would generate more data, we are not at all certain such data are essential or even beneficial to sound nutrition monitoring because of current limitations of survey methods and standards of adequacy. We are confident that our present survey program will generate the data necessary for the required policy decisions. Thus an additional expenditure of this magnitude is not in keeping with scientific need nor the general requirement for fiscal restraint by the federal government.

Mr. Emerson: Will information be available on diets specifically for each State under H.R. 2436?

Mr. Bode: No. State by State data would increase survey costs at least 10-fold. Also we do not feel that Federal collection of State by State data is appropriate for the following reasons: (1) Our national surveys show little important place-to-place differences in diets. Nutrient intakes differ mainly by sex and age of individual and to a lesser degree by race and income; regional and urbanization differences are generally related to race and income. (2) The needs for dietary data differ by States and depend on specific uses. For example, a State may want to know about diets of teenage girls who are pregnant so a program can be designed to meet their dietary needs. A special area may be hard hit by unemployment and need special assistance in planning appropriate diets. A city may have a large number of people appearing in soup kitchens and need to know how to best supplement their diets and why they need the assistance. A State by State survey conducted at the Federal level could not provide the detailed information needed for a variety of specific localized situations.

Mr. Emerson: You say the "layers of bureaucracy" would impede your progress rather than help, Mr. Bode. Can you explain this?

Mr. Bode: We have a small staff of 10-15 monitoring specialists who plan and oversee data collection, maintain data bases, analyze results, prepare survey reports, and act as consultants to data users and survey researchers. These same staff would have to educate the Board and Council about our surveys, plan agendas for meetings, and support the groups in preparation of reports. These activities would probably serve a useful purpose. However, there is little doubt that the additional support services, and reviews to be considered and reconciled from 10 Board members and 15 Council members with diverse background and interests would delay progress on monitoring activities. Even if we expanded our staff substantially, training and start up would take a considerable amount of time.

Mr. Emerson: It is very frustrating to have to make important decisions on legislation based on dietary information that is 10 years old. How do you plan to improve this situation?

Mr. Bode: The Continuing Survey of Food Intakes by Individuals which is now in progress will provide, on a yearly basis, information on the diets of women ages 19-50 and their own children ages 1-5. The information collected on diets this spring will be published late this year. This survey is designed for fast turn around on data. We expect it to indicate dietary responses to major changes in the economy and other factors that affect diets markedly. We are proposing to collect data on other sex/age groups yearly beginning in 1988. In addition, procedures in previous surveys such as coding that have been handled manually are being automated to provide faster publication of data.

Mr. Emerson: Mr. Bode, you mentioned a National Academy of Sciences report that had some rather specific suggestions for how the surveys might be improved. Would you, Mr. Bode and Dr. Mason, tell how your Departments have acted on these suggestions?

Mr. Bode: The report "National Survey Data on Food Consumption Uses and Recommendations" contained 34 specific recommendations for USDA. Attached is a copy of the USDA response to these recommendations.

Mr. Emerson: Mr. Bode and Dr. Mason, we hear a lot about the need to make these surveys compatible. What does this mean and what specific progress is being made?

Mr. Bode: The USDA's Nationwide Food Consumption Survey and DHHS' National Health and Examination Survey have different objectives. However, each survey includes a 24-hour recall of the dietary intake of the individuals and related socioeconomic data. If these 24-hour recalls can be made comparable, a link will be available between USDA's dietary status/food supply information and DHHS' health status information. Thus, the two surveys together will provide more comprehensive information on nutritional problems of the population than either survey alone.

We have made some important progress in making the 24-hour recall comparable. Food codes and the nutritive values of foods used will be the same in future surveys. Some interviewing procedures have been modified and others are being reviewed. The ways we present information in published form are also being studied to see how they can be made more similar. The monitoring staffs of the two Departments are meeting quarterly to discuss ways for achieving greater comparability.

USDA'S RESPONSES TO THE NATIONAL ACADEMY OF SCIENCES/FOOD AND NUTRITION BOARD REPORT ON NATIONAL SURVEY DATA ON FOOD CONSUMPTION: USES AND RECOMMENDATIONS

The USDA supports and is taking or plans to take action on most of the 34 of the recommendations of the NAS/FNB Report. The Department will use this report in defining future work in the nutritional monitoring program. The recommendations and USDA progress and plans relative to the recommendations are as follows:

1. Recommendation to USDA: Redesign of the Individual Dietary Intake component of the NFCS. Instead of an intermittent 1-year survey of a large sample, the Committee suggests an annual survey that would distribute the total sample over a number of years. A design that provides for the collection and processing of data from 20 percent of the full sample per year has been suggested (NRC, Committee on Food Consumption Patterns: "Assessing Changing Food Consumption Patterns," 1981). Addition of data accumulated in the preceding 4 years to the data collected during a current year would provide data on the total sample. This design would reduce the problem of input overload to a minimum.

   Action: The Individual Dietary Intake will be retained in NFCS 1987. If the CSFII after 1988, which adopts most features of this recommendation provides adequate information on food intakes, the individual portion of the decennial survey in the 1990's will be dropped. The Continuing Survey of Food Intakes by Individuals (CSFII) was initiated in April 1985. Proposed plans for later years are as follows: Every year, the survey will determine the food intakes of a nationally representative core group of women 19 to 50 years of age and their children 1 to 5 years of age. In 1985 and 1986, CSFII will also include a comparable sample of low-income women and children in the same age ranges. In 1988, the Department proposes to expand the CSFII to include other sex-age groups. The total sample for these age groups will be distributed over 1-3 years, and data will be reported as a 1-3-year moving average. Data from the core monitoring groups will signal changes in food intakes on a year-to-year basis. Use of the moving average for other sex-age groups will reduce input overload.

2. Recommendation to USDA: The data collected in the Committee's proposed continuous Individual Dietary Intake Survey should include the detailed population and socioeconomic descriptors that adequately and precisely identify the survey subjects and their household characteristics, as well as their food consumption and dietary intake.

   Action: The CSFII does include population, socioeconomic, and other descriptors that will allow crosswalks to NFCS and NHANES as well as to other Federal surveys.

3. Recommendation to USDA: Along with implementation of continuous data collection systems for the Individual Dietary Intake component of the NFCS and for the NHANES, the Committee recommends the implementation of continuous systems for processing data, releasing data tapes, and reporting. Implementation of a continuous system would result in the more efficient and timely collection, processing, and reporting of survey data on food consumption and dietary intake.

   Action: The USDA has implemented a continuous system for data processing, releasing data tapes, and reporting results for the CSFII. Data are being collected and processed separately for each day of food intake (wave). Up to 6 days of food intake will be obtained from each respondent over a 1-year period. Data tapes for the core monitoring group will be released yearly (approximately 3-4 months after data collection is completed), as will data tapes for those groups for which a complete sample is drawn each year; i.e., low-income women. Two annual reports for the core monitoring group and other complete samples are scheduled. The first report will cover the first wave each year and will present comparisons with previous surveys such as NFCS 1977-78 or year-to-year comparisons such as 1985/1986. The second report will present results for waves 1 through 6 and, after the first year, will present comparisons with the previous year.

4. Recommendation to USDA: At a minimum, continue to collect replicated data on food consumption and dietary intake of individuals; e.g., that USDA maintain, at a minimum, the collection of 3-day intake information used in the Individual Intake phase of the 1977-78 NFCS. This replicate data, however, should be collected by a single method.

   Action: CSFII collects 6 days intake, each a 24-hour recall, spread over the year. The decennial NFCS 1987 will again, as in 1977-78 collect 3-day individual intake. We do not support use of a single method, however. Analysis of the 1977-78 NFCS data showed no significant difference between data collected from the 1-day recall and from the 2-day record. Also, analyses of a 1981 nine-method methodological study of data collection showed no significant difference among personal interviews, 2-day records, or the telephone interview. In view of these results, the Department plans to collect 3-day intake information using either the procedure from the 1977-78 survey or a combination of personal and telephone interviews. A significantly greater cost associated with using only the personal interview for collecting the 3 days of individual intake data eliminate that alternative.

5. Recommendation to USDA: Because of the need for statistical analysis of intraindividual variability, the Committee supports USDA's proposed plan for the repeated surveying of individuals over a 1-year period. The Committee believes that this will allow needed statistical analyses whose results will, over the longer term, permit determination of the best data collection procedures.

Action: The USDA will do repeated surveying of individuals (6 days of intake) in the core monitoring group and/or supplemental complete 1-year samples. Results from this nationally representative core group on a yearly basis will provide data for methodological analysis and is essential to signal changes and provide continuous data on the dietary adequacy of the general population. The Department is initiating a study with NFCS 1977-78 data to determine the feasibility of using diets of the core group (women) to predict the dietary adequacy of other sex-age groups. If feasible, we will be able to use data for the core group to predict diet quality of other sex-age groups until the moving average sample is in place for all sex-age groups.

6. Recommendation to USDA: Core elements of the methods used for the 24-hour recall in the two surveys should be standardized. This would also include both the standardization of interviewing techniques and the format of interviewing subjects. As discussed later in this report, standardization should also include the coding of food intake data and the use of common data bases on the composition of foods.

Action: The two Departments have established several committees to study the feasibility of standardizing the core elements of the two surveys. The objective is maximum standardization. Due to different data requirements of the two Departments and the nature of the other non dietary intake components of the two surveys, a complete standardization is not practical. For example, the USDA, because of its nutrition intervention programs, devotes considerable respondent burden to measuring program participation; DHHS devotes little. On the other hand, DHHS devotes considerable time to measuring physical activity, while the USDA spends a minimum. However, the questions asked will contain core links that provide a crosswalk between the two surveys.

The food coding system and nutrient data base developed for the 1985 CSFII will be updated for use by DHHS in future NHANES and by USDA in future NFCS.

7. Recommendation for USDA: The Committee notes that USDA has previously commissioned studies to evaluate food intake methods. Results of these studies may lead to modifications of the 24-hour, as well as dietary record, data collection procedures. In commending USDA for this continuing effort to improve food intake

methods, the Committee urges that any changes in core elements of the 24-hour component be implemented uniformly across the two surveys. The Committee, using the survey purposes as guides, suggests that USDA serve a lead role in this regard, but emphasizes that the logistic implications of changes should be considered in the context of both surveys.

Action: The Department plans to continue its lead role in methodological programs to improve all aspects of dietary intake procedures and methods. Studies will include consultation and planning with DHHS, and benefits and feasibility of any changes will be considered relative to both survey operations.

8. Recommendation to USDA: In anticipation that core elements of dietary intake questionnaires will be standardized, the Committee recommends that the two surveys include questions to obtain information on the use of dietary supplements. When possible, brand names and quantities ingested or other qualitative and quantitative information (e.g., potency) should be sought.

Action: The USDA's individual intake surveys, both NFCS and CSFII, obtain information on the usage and types of dietary supplements. Information on specific brands and quantities ingested is not obtained, however, because of the substantial increase in respondent burden.

9. Recommendation to USDA: Because of the possible complexity and multiplicity of information that could be obtained, the Committee suggests that an interagency working group be convened to determine the nature and wording of the core questions used to obtain information on the use of dietary supplements. With the survey purposes as guides, given that the thrust of this effort is dietary, the Committee recommends that USDA serve as the lead agency in convening the suggested working group.

Action: DHHS is developing a dietary supplement data base by brand, etc. As this data base is developed, the Department will work with DHHS to determine whether or not inclusion of questions to obtain quantitative data is feasible in existing surveys. Factors to consider include substantial increase in respondent burden or whether information might be better obtained by a special survey.

The Department will evaluate the feasibility of obtaining detailed information on supplements as a special wave or subsample on its CSFII. If determined to be feasible, the Department will work with DHHS and other interested agencies to develop the core questions to be used.

The Department feels that this information would be extremely valuable in conjunction with dietary information on infants, elderly, and pregnant women.

10. Recommendation to USDA: The Committee recommends that USDA and DHHS convene a joint working group to develop improved techniques for determining the consumption of discretionary dietary components. The Committee suggests that this review include considering the utility of special surveys for determining the consumption of these components and, alternatively, the utility of adding core components to the existing surveys that better measure the consumption of discretionary dietary components.

    Action: The USDA in the CSFII has instituted a number of procedures to obtain more complete information on discretionary dietary components; i.e., sugar, salt, fat, alcoholic beverages. Special efforts will be made to obtain information on use of fat in cooking and its type, use of salt or salt substitute in food preparation, and whether or not salt or salt substitute was added at the table. In addition, specific probing questions have been built into the survey to generate responses about discretionary use of sugar, snacks, candy, alcoholic beverages, etc. In spite of these efforts, continued problems are anticipated concerning use of alcoholic beverages. Other aspects of discretionary consumption, such as quantifying salt usage at the table, will probably require special surveys. The performance of new approaches and probing questions in the field trials and first waves of CSFII will be shared with DHHS for their consideration in development of the NHANES III questionnaire.

11. Recommendation to USDA: The Committee recommends review of the use of a food-frequency questionnaire technique. Potential modifications to allow some qualification of individual intake over time should be explored. Adequate resources should be made available to test the validity and cost effectiveness of the food-frequency questionnaire technique. This review should be based on the experience of investigators in both the public and private sectors. The Committee anticipates that this review will provide highly useful information. However, if after appropriate investigation, no uses of these data for important survey purposes can be identified, the Committee would recommend that the technique then be deleted from the NHANES. In any event, the Committee suggests that the food-frequency questionnaire technique not be added to the NFCS before the recommended review is complete.

    Action: The USDA currently has contracted for two major studies to test the validity and effectiveness of the use of the food frequency approach. One of the studies is attempting to quantify this approach. As results are received, we will share them with DHHS. The Department has never considered the food frequency approach as a replacement for the 24-hour recall, but only as a supplement to it.

12. Recommendation to USDA: The Committee views the continuing expansion of the data on the composition of foods as an important contribution to the more effective and wider use of the results of food consumption and dietary intake surveys. The Committee, using the survey purposes as guides, recommends that USDA serve as lead agency in this effort to develop a cost-effective approach to expanding the data base on the composition of foods; e.g., through the identification and chemical analysis of core foods in the diet of the U.S. population.

    Action: USDA's Nutrient Composition Laboratory (NCL) has adopted the strategy of identifying and analyzing core foods, sampled on a nationwide basis, concentrating on those nutrients related to current health concerns and for which suitable analytical methods exist. HNIS places emphasis on frequently reported foods but must also seek data on a wider variety of foods to meet the needs of food consumption surveys and other data users. Extramural contracts under HNIS sponsorship are aimed at filling specific data gaps, including analyses of some nutrients for which the best available methodology may be only fair. However, data on these nutrients are frequently in great demand by data users, who request best available data, knowing there may be limitations as to reliability. The data base for CSFII and NFCS-87 is being expanded from 14 nutrients to 28.

13. Recommendation to USDA: The Committee suggests consideration of the following for data acquisition: Establishing criteria to evaluate the current state of data on the composition of foods, using these criteria to evaluate current methods for food analysis, and, where needed, developing strategies for improving the data in data bases on the composition of foods.

    Action: HNIS has periodically prepared a chart of the status of food composition information by nutrient and food category. It is now possible to estimate the proportion of actual analytical data for each nutrient in the foods of the Primary Data Set established for Individual Intake Surveys. Where possible, the Nutrient Data Bank includes the number of analytical observations and standard error. The use of confidence codes is being considered. The publication, "The Iron Content of Foods," (HERR-45) describes a procedure for presenting a description of data reliability. The revision of the Nutrient Data Bank now underway makes provision for including evaluation of data as a part of the regular computerized procedure.

14. Recommendation to USDA: The Committee also suggests that appropriate educational strategies on analytic methods be developed for those who provide analytic data for the data bases and for those who maintain and evaluate data base systems. A greater effort should be made to educate those who use various data base systems, including the users of the food consumption and dietary intake surveys.

Action: USDA recognizes the opportunity and is taking action to educate generators of analytical data as to the need for expressing or publishing sufficient detail about their procedures so that the quality of data produced can be evaluated. We support the work of INFOODS in establishing international guidelines for the proper conducting and reporting of analyses. NCL is active in international efforts to establish and apply standard reference materials. HNIS uses the Nutrient Data Bank Conferences to educate users on the quality of existing data. A new cooperative agreement is underway to prepare a guide for data users that will serve to educate those who use various data base systems. USDA is planning workshops after CSFII and NFCS-87 to assist data users.

15. Recommendation to USDA: To improve use of future food consumption and dietary intake surveys, the Committee recommends that the data bases on the composition of foods be expanded and improved. Information for data bases on the composition of foods should be derived from direct chemical analysis of food products (as prepared and consumed) wherever analytic methods make such analysis possible.

Action: Efforts continue to expand and improve data bases on the composition of foods, including by direct analysis of foods. HNIS extramural contracts and the ongoing work of NCL are utilized to expand and improve the USDA Nutrient Data Base for Standard Reference. The data base for forthcoming food consumption and dietary intake surveys is being derived from that Standard Reference Base. Because of prohibitive costs it is not practical to employ direct analysis of all foods as consumed, especially food mixtures prepared in the home. However, investigations are also being carried out to verify through analysis, the procedures used to calculate the nutrient content of mixtures from recipes and analyzed values for ingredients. These procedures take into account changes in weight and retention of nutrients during preparation.

16. Recommendation to USDA: The Committee recommends that label values not be used in data bases on the composition of foods unless no other information is available. Incorporation of label value information into future data bases should be discontinued as information from direct analysis becomes available.

Action: With the sole exception of levels of fortification nutrients added to certain foods, label data are never incorporated into the Standard Reference Base. Data received from industry are the analytical values upon which label claims are based.

17. Recommendation to USDA: The Committee recommends that, where appropriate analytic methods exist, analyses be undertaken to provide missing data on nutrients present in foods, giving priority to foods identified as core foods. Implementation of this recommendation may require commitment of resources on the part of USDA and many other Government agencies.

The Committee believes that USDA and agencies with particular needs for data on the composition of foods could develop cooperative agreements to obtain such data. This would provide useful information both for a requesting agency and for incorporation into future data bases on the composition of foods. The Committee, with the survey purposes as guides, recommends that USDA serve as lead agency in this effort.

Action: As explained before, HNIS and ARS are working to expand and improve data bases on the composition of foods. Involving other agencies through cooperative agreements is a possibility. For several years the National Heart, Lung, and Blood Institute has helped to support work at both HNIS and ARS. We have also established informal cooperation with other agencies. For example, data generated by FDA's Total Diet Study have been provided to HNIS, and the National Cancer Institute (NCI) has indicated willingness to share data developed under NCI contracts. ARS's current work on carotenes and selenium is supported by formal agreement between NCI and the Beltsville Human Nutrition Center. This work is coordinated with extramural research sponsored by HNIS. In addition, the Food Safety and Inspection Service has provided data to HNIS on food they have analyzed.

18. Recommendation to USDA: The Committee strongly recommends that all future food consumption and dietary intake surveys supported with Federal funds use a common, standardized data base for estimating dietary intakes of food components.

For reasons cited earlier having to do with the purpose of the core surveys, the Committee strongly recommends that USDA serve as the lead agency in joint agency efforts to standardize common data on the composition of foods that are used in federally funded food consumption and dietary intake surveys. Because special NHANES needs must be recognized, taken into account, and met, the Committee recommends that the NCHS survey planners be directly involved in these joint agency efforts. The resulting standardized data base should be made readily available to the public and professionals.

Action: The Department agrees that standardized data bases are desirable and have taken steps, with DHHS consultation, to prepare such bases for use by both USDA and DHHS. The Department believes that the data bases developed for the CSFII and NFCS-87 are the most complete, adequate data bases available. The data base for the CSFII has been expanded to include calories and 28 nutrients as compared to calories and 14 nutrients in the data base for the 1977-78 NFCS. This expansion was made possible as a result of research we and others initiated in the past decade.

Food composition data bases developed for CSFII and NFCS-87 will be made available through NTIS, as was the 1977-78 data base. Because the CSFII is a continuing survey, the CSFII data base will be revised as new food composition data become available and as new food products appear.

The data bases containing food composition information developed for use with specific surveys and made available through NTIS are derived from information contained in USDA's Nutrient Data Bank and its primary data tape called "The USDA Nutrient Data Base for Standard Reference." The Nutrient Data Bank system documents all recipes, takes into account retention and yield factors, and contains information on food analyses such as the number of samples, variances, and whether or not data are derived from actual analysis of food or by imputation.

The data base for the CSFII includes data on specific nutrients requested by DHHS staff. The forthcoming NFCS and NHANES III survey will use identical food codes and a single data base. The USDA has made a commitment to update, revise, and add to its system, food composition data for new foods as requested by DHHS. We will assist other agencies as staffing and funds permit.

19. Recommendation to USDA: Given the importance of food codes in identifying foods consumed and in using survey data, the food codes used in the surveys should be standardized. The Committee strongly recommends that future food consumption and dietary intake surveys supported by Federal funds use a compatible food coding system for the identification of foods.

The Committee also recommends that a standard set of criteria be developed and used for determining how a food is to be coded when the food (e.g., a home-recipe food) is not readily identifiable with the usual nonmenclature of commerce. The development of appropriate food codes requires consideration of complex issues beyond the Committee's charge. However, the Committee recommends that USDA and DHHS jointly establish a mechanism for the development of common food codes. The Committee, using the survey purposes as guides, suggests that USDA serve as the lead agency in this effort. Academic and industry scientists who use these data should be given an opportunity to contribute to this development.

Action: DHHS will use the USDA's current food coding system in NHANES III to ensure compatibility. USDA will coordinate future revisions with DHHS. Also, the Department is looking at an alternative food coding system to determine if it would reduce the time needed to code food intake data, enhance standardization among surveys, and increase data accuracy.

We propose that the coding system be one of the key issues of the Joint Data Users Conference to be sponsored by the USDA and DHHS and planned for 1988-89.

20. Recommendation to USDA: The Committee recommends that survey planners from USDA and DHHS continue a joint effort to assess the current compatibility in the sampling frames and population descriptors of the two surveys. The goal of this joint effort should be to develop and implement sampling plans and descriptions of populations that ensure the greatest possible compatibility between the two surveys.

The Committee recommends that the joint working group, mentioned above, set the appropriate divisions of population descriptors so that they are compatible between reports from the two surveys.

Action: The two Departments will continue their joint efforts to assess the compatibility of the sampling and population descriptors to make the two surveys as comparable as possible.

21. Recommendation to USDA: There are potential uses that require that information from other sources be combined with information contained in the two surveys. For example, certain analyses require linkages of detailed household expenditure survey data (e.g., that obtained from the Consumer Expenditure Survey) and information from NFCS. The Committee recommends that such uses be identified and considered and that appropriate linkage points, where necessary, be established to fulfill these uses.

Action: USDA has and will continue to include key questions in its surveys that will allow crosswalks between the CSFII and NFCS and surveys such as the Consumer Expenditure Survey, SIP, etc. These include, among others, questions on income, employment, hours worked, age, sex, race, program participation, region, and urbanization.

22. Recommendation to USDA: There is a specific use that the Committee is already aware of that requires specific linkage information. If adequate identifying information is collected for individuals, it would be possible to link survey data with other data sets, particularly those involving health outcomes. In particular, the National Death Index provides a mechanism to follow surveyed

individuals for mortality. To be most effective, Social Security numbers should be collected in both surveys. Mechanisms to ensure confidentiality are possible. For example, individual identifying information can be stored with a separate agency, such as the Bureau of the Census or NCHS, which is covered by specific privacy acts. Linkage could be accomplished under its auspices without risk of releasing individual data.

The Committee recommends that such identifying information be collected in both surveys.

Action: The USDA requested permission from OMB to initiate a system of records, (that is, to collect Social Security numbers and addresses of the respondents) for the CSFII. This request was turned down. Consequently, it will not be possible to link data on specific individuals from various surveys. USDA agrees that identifying information would be beneficial and will work towards doing so for NFCS-87.

23. Recommendation to USDA: Data users suggested the incorporation of detailed information on data collection, processing, data reporting, and other data handling techniques into the data tapes. Such descriptions would serve user needs for more detailed description about the data handling (data documention).

The Committee recommends that, where feasible, information on the group of techniques necessary be incorporated into the data tapes and be added to published data reports to ensure a complete record of the reasons for changes in variables.

When methods are standardized in and common to the core surveys, the Committee recommends that each agency's data base tapes contain identical data documentation.

Action: The USDA will provide more detailed information on both the data tapes and in its initial survey reports. In addition, a series of workshops for survey data users is being planned to discuss specific survey procedures (sampling, data collection, nutrient data, data tape availability, analysis procedures, etc.) and appropriate data uses. As in the past, USDA staff will be available for consultation.

24. Recommendation to USDA: The Committee suggests that means of providing continuing post release information to data users be explored and that a system be developed and implemented to provide this information to data users. The feasibility of using modern bibliographic information systems, an information feedback system, and an educational system for data users should all be reviewed.

The Committee suggests that the agencies review the use by scientific journals and literature search systems of a keyword notation system when publications cite or use NFCS and NHANES survey data. The goal of this effort would be assurance that, when these data are cited or used in scientific reports, the specific articles can be identified and retrieved through the modern computerized scientific literature search systems (e.g., Medline, Toxline, Biological Abstracts, and Chemical Abstracts).

The Committee further suggests the development and implementation of an information feedback system between data collectors and data users. Both groups would then be able to develop an effective knowledge of data uses, data users' concerns, and other information that can help to ensure both the appropriate use of data and meeting the needs of future data users.

In addition, the Committee urges consideration of a continuing educational system, perhaps through the development of short courses for data users, to provide useful information to the broad community of users. An educational system can help to prevent unrealistic or inappropriate interpretations of and expectations for these data. In the view of the Committee, the variety of uses for these data makes it likely that an interagency effort in user education would be most useful and most cost effective.

Action: An effective system of postrelease information must operate two ways: The Department must continually provide survey information to data users, and data users must provide the Department with information on how they have used the data. We have found in the past that setting up such a system is a difficult task. Nevertheless, the Department will make new approaches with the CSFII and subsequent surveys. For example, the Department will inform data tape purchasers and workshop participants of this new effort, will ask that institutions inform us when tapes are copied for others, and will ask that users provide both NTIS and USDA with copies of presentations, articles from scientific journals, and other types of materials. In addition, we will work to establish identifying information such as keywords for use in abstracts, literature search systems, etc.

We are aware that survey data are used inappropriately at times. Regional workshops planned for 1986-87 and a major data users' conference planned for 1989 will provide an effective means of communicating appropriate uses of the data. Also, data users will be given names, addresses, and phone numbers of USDA personnel able to answer specific questions. Data users, however, have the ultimate responsibility for their correct use of the data.

25. Recommendation to USDA: Given the primary purposes of the NFCS and its importance in the broad array of questions that must be addressed through nationwide food and nutrition monitoring, the Committee recommends a continuing commitment to that research

program. The Committee also recommends that DHHS adopt a similar program of intramural and extramural research on methods, some of which could be jointly undertaken with USDA.

Action: The USDA plans to continue both its intramural and extramural research program, within funding limitations. Staffing increases in the past 2 years will add materially to our intramural research program. When appropriate, both intramural and extramural activities are undertaken cooperatively with DHHS.

26. Recommendation to USDA: The Committee strongly recommends that USDA continue its investigations of survey methods. It suggests that USDA, with the appropriate statistical resources, then examine the design requirements of dietary-data collection for proposed approaches to data analysis and interpretation.

Action: The Department conducted a series of methodological studies between 1981 and 1985. Results of these studies served as the foundation for the CSFII which was initiated in 1985. We are continuing the methodological research program to determine the best ways to collect both household and individual data. Results will be shared with DHHS. As in the past, we will then evaluate these results relative to data analysis and interpretation.

27. Recommendation to USDA: The Committee recommends that the agencies form a joint working group to evaluate newer methods for validating energy intake and expenditure estimates.

The goal of the evaluation should be to identify systematic error in estimating dietary intake of energy and determine the best method for correction.

Action: The problem needs to be approached from two standpoints: First, newer methods are needed that will more accurately measure the energy content in foods; and second, improved methods are needed to measure the actual intake of foods. USDA's new Human Calorimeter, now under construction at the Beltsville Human Nutrition Center, will provide the means for validating the calculation of food energy content of foods as well as for reassessing energy expenditure of humans under known conditions. Improvement in food intake methodology—in particular, a better measurement of actual consumption of fats and alcohol—is an appropriate task for interagency action.

28. Recommendation to USDA: The Committee suggests that, to respond to user needs for greater specificity in food descriptors, consideration be given to the use of UPCs in developing standardized food codes for the food consumption and dietary intake

surveys. The Committee also recommends that, if automated data collection applications of UPCs are shown to be feasible, such automation be incorporated into the survey data collection methods.

Action: The Department has given consideration to the use of Universal Product Codes (UPCs) in its food consumption surveys. We feel that UPCs cannot adequately replace our current coding procedures at this time and that future use of UPCs will be limited to the household phase of the NFCS because food as consumed (reported in the individual phase of NFCS and in NHANES) is often in a different form than food as purchased. However, we have and are continuing to evaluate the use of UPCs for special or regional surveys in conjunction with the food industry and academic institutions.

29. Recommendation to USDA: The Committee recommends deferring specific modifications designed to increase collection of product brand-name information in national surveys on food consumption and dietary intake until information on the utility of UPCs or other automated systems for collecting such data can be analyzed. The Committee recognizes the needs of some users for this kind of information. However, it is concerned that immediate modification of food intake methods to collect such data before its validity, reliability, and utility in reporting food consumption and dietary intake are demonstrated may be premature.

Action: It is essential that brand names be collected for certain items (i.e., breakfast cereals and candy bars) in both the NFCS and NHANES surveys, so that appropriate food composition data and serving sizes can be applied. The USDA in the CSFII (of women) is attempting to collect brand names, whenever applicable, of all food items used in home food preparation as well as those obtained at fast-food restaurants. This effort should provide a basis to examine the feasibility of collecting brand-name information in future surveys as well as the usability of brand-name data in evaluating dietary intakes.

30. Recommendation to USDA: In the view of the Committee, a priority goal of federally supported research should be improvement in the analytic methods needed to develop public data on the composition of foods. With the survey purposes as guides, the Committee recommends that USDA serve as the lead agency in efforts to expand and improve qualitative and quantitative data on the composition of foods.

The Committee suggests that a review of the state of analytic methods will be required to develop a more complete data base on the composition of foods. The Committee recommends that research resources be provided, where necessary, to develop the appropriate and validated analytic methods needed. The development of methods is particularly important for food components about whose dietary intake in the United States, whether high or low, there is scientific concern.

The Committee believes that a broad-based effort for the development of these methods is needed and suggests that further programs for their development use the resources of academia, government and industry. USDA and DHHS, perhaps by establishing an interagency working group, should address the need for written criteria (e.g., both minimal standards and adequate standards) for the analytic methods used in qualitative and quantitative assessments of the composition of foods, evaluation of current methods for food analysis, and strategies for establishing acceptable assay techniques for the chemical analysis of foods.

In the view of the Committee, it is important to ensure consistency, comparability, precision, and reliability in analytic methods and in dissemination of information about both methods and the determinations that result. The Committee suggests inclusion of representatives of both the National Bureau of Standards and such appropriate scientific organizations as American Chemical Society, the American Society of Testing Methods, and the Association of Official Analytical Chemists in efforts undertaken to improve the analytic methods needed to expand standardized public data on the composition of foods.

Action: One of the principal responsibilities of USDA's Nutrient Composition Laboratory (NCL) is the development of accurate analytic methods for food components. Periodically, the NCL has published information on the state of the art in food composition methodology and uses that information in establishing priorities for research. USDA also is supportive of the work of INFOODS in developing international guidelines for methods in order to ensure consistency and comparability in laboratory analyses. Staff of NCL are also working towards the development of suitable standard reference materials that may be used to validate procedures. It is appropriate that USDA serve as lead agency in efforts to expand and improve qualitative and quantitative data on the composition of foods. In the future, USDA will involve other agencies and related scientific organizations as suggested. One immediate and continuing benefit of such involvement is in the help such organizations can provide in establishing priorities for research—by evaluating of which components are most important for health and by evaluating the need for improved methodology for specific food components.

31. Recommendation to USDA: The development of data on nonnutritive components in food would benefit the users of national survey data on food consumption and dietary intake. Earlier in this report, the Committee has recommended the development of appropriate analytic methods and expansion of a standardized data base on the composition of foods. Similar recommendations are applicable to the longer-term development of standardized data on nonnutritive food components.

Action: Traditionally, USDA has been responsible for nutrient components of food while the Food and Drug Administration (FDA) has been responsible for non-nutrients, such as additives and toxicants. Although some components, such as dietary fiber, are appropriate for USDA concern, we believe this basic division of responsibility should be maintained. This does not rule out the possibility of ensuring that USDA files on non-nutrient components of food are compatible with those on nutrients.

32. Recommendation to USDA: The Committee does not expect the immediate addition of quantitative information about food ingredients into data bases on the composition of foods. However, the Committee recommends that such additions to data bases on the composition of foods be considered as a longer-term goal. Committee recommendations for the development of appropriate analytic methods and expansion of a standardized data base on the composition of foods are also applicable to the development of standardized data of food ingredients.

Action: The Department will consider as a long-term goal the Committee's recommendation that the National Nutrient Data Bank include quantitative information about food ingredients. Funding and staffing at this time preclude this except for mixed dishes.

The National Nutrient Data Bank now includes data for most foods that might be classified as ingredients, such as milk, flour, sugar, etc., as well spices, herbs, and leavening agents. The Department will consider as a long-term goal quantitative information about other ingredients. These might include colorings, flavorings, and other additives.

33. Recommendation to USDA: The Committee does not believe that it is feasible to expect the immediate addition of quantitative information on inadvertent food components to data bases on the composition of foods. However, the Committee recommends, over the longer term, a systematic approach to the development of this information. Committee recommendations for the development of appropriate analytic methods and an expanded data base on the composition of foods are applicable to the development of standardized data on inadvertent components of foods.

Action: The Department agrees with the Committee that it is not feasible at this time to include quantitative information on inadvertent food components in view of the priority need for more complete and reliable data on the nutrient composition of foods. The Department will discuss concerns about chemical contaminants in foods with the FDA and EPA and consider such concerns in future actions.

34. Recommendation to USDA: The Committee suggests review of the technology of data tape storage. It further suggests that the agencies undertake continuing efforts to ensure that the information collected and stored on these tapes be protected from physical deterioration.

The Committee suggests that USDA, DHHS, and other interested agencies, along with representatives of the National Archives and Records Service, consider the technical means that may be needed to ensure that data tape information from federally funded surveys be stored and maintained in a manner most likely to prevent their physical deterioration.

Action: USDA currently maintains the survey data files at three geographically separated computer facilities. They are HNIS in Hyattsville, Maryland, USDA Washington Computer Center in Washington, DC, and National Technical Information Service (NTIS) in Springfield, Virginia. All facilities store tapes in a temperature and humidity controlled environment. In addition, HNIS and NTIS maintain lists of individuals/organizations having copies of data files. Under these circumstances, it is highly unlikely that any survey data file could become unrecoverable. Should we become unable to read the tapes at one facility, replacement copies will be generated from one of the other two facilities.

Some years ago, we contacted the National Archives for information on the appropriate handling of survey data sets. We are following their recommendations and will maintain contact with them in the future, updating our procedures as needed.

APPENDIX 6

I

99th CONGRESS
1st Session

H. R. 2436

To establish a coordinated National Nutrition Monitoring and Related Research Program, and a comprehensive plan for the assessment of the nutritional and dietary status of the United States population and the nutritional quality of the United States food supply, with provision for the conduct of scientific research and development in support of such program and plan.

IN THE HOUSE OF REPRESENTATIVES

May 8, 1985

Mr. MacKay (for himself, Mr. Brown of California, Mr. Walgren, Mr. Towns, Mr. Barnes, Mr. Ackerman, Mr. Edgar, Mr. Downey of New York, Mrs. Burton of California, Mr. Leland, Ms. Oakar, Mr. Wirth, Mr. Owens, Mr. Fuqua, Mr. Mineta, Mr. Dymally, Mrs. Schroeder, Mr. Nelson of Florida, Mr. Scheuer, Mr. Moody, Mr. Cooper, Mr. Moakley, Mr. Young of Missouri, Mr. Gilman, Mr. Boehlert, Mr. Wise, Ms. Mikulski, Mr. Neal, Mr. Weaver, Mr. Penny, and Mr. Carper) introduced the following bill; which was referred jointly to the Committees on Agriculture and Science and Technology

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A BILL

To establish a coordinated National Nutrition Monitoring and Related Research Program, and a comprehensive plan for the assessment of the nutritional and dietary status of the United States population and the nutritional quality of the United States food supply, with provision for the conduct of scientific research and development in support of such program and plan.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as the "National Nutrition Monitoring and Related Research Act of 1985".

FINDINGS

SEC. 2. The Congress finds and declares that—

(1) a national nutrition monitoring system is a basic tool necessary to examine the linkages between food consumption patterns, nutritional status, and health status;

(2) a national nutrition monitoring system is essential to insure the nutritional quality of the national food supply, to insure that the nutritional needs of the public are achieved, and to insure that appropriate data bases are maintained to guide the expenditure of public funds for nutrition research and for development, education, and intervention programs designed to maintain and enhance the nutritional status of the population;

(3) scientific methods and technologies to assess nutritional and dietary status are costly, imprecise, and lack standardization;

(4) Federal efforts to collect, analyze, interpret, and disseminate dietary and nutritional status data are untimely, give inadequate attention to assessing high-risk groups and geographic areas, and lack resources for the continuous collection, processing, and analysis

of dietary, nutritional, and related health status information and for the monitoring of general health trends and their relationship to food practices and supplies;

(5) nutrition monitoring and related research lacks a central Federal focus for the development, coordination, and implementation of a strategic and timely national nutrition monitoring program; and

(6) no effective means currently exist to assist State and local governments in obtaining dietary and nutritional status data and in developing related data bases and networks, or to bring together public and private interests to identify national nutrition monitoring priorities and issues, and to promote progress in a cooperative forum.

PURPOSE

SEC. 3. It is the purpose of this Act—

(1) to make more effective use of Federal and State expenditures for nutrition monitoring and to improve the performance and benefits of current Federal nutrition monitoring and related research activities;

(2) to establish and facilitate the timely implementation of a coordinated National Nutrition Monitoring and Related Research Program and thereby establish a scientific basis for the maintenance and improvement of the nutritional status of the United States population

and the nutritional quality of the United States food supply;

(3) to establish and implement a comprehensive National Nutrition Monitoring and Related Research Plan to assess on a continuing basis the dietary and nutritional status and trends of the United States population, the state-of-the-art, future monitoring and related research priorities, and the relevant policy implications of the findings;

(4) to establish and improve national nutritional and health status data and related data bases and networks, and to support research necessary to develop uniform indicators, standards, methodologies, technologies, and procedures for nutrition monitoring;

(5) to establish a central Federal focus for the coordination, management, and direction of Federal nutrition monitoring activities;

(6) to establish mechanisms for addressing the nutrition monitoring needs of Federal, State, and local governments, the private sector, scientific and engineering communities, health professionals, and the public in support of the objectives described in paragraphs (1), (2), (3), (4), and (5); and

(7) to provide for the conduct of such scientific research and development as may be necessary or appropriate in support of such objectives.

DEFINITIONS

Sec. 4. As used in this Act—

(1) the term "nutrition monitoring and related research" means the set of activities necessary to provide timely information about the role and status of factors which bear upon the contribution that nutrition makes to the health of the United States population, including (A) dietary, nutritional, and health status measurements, (B) food consumption measurements, (C) food composition measurements and nutrient data banks, (D) dietary knowledge and attitude measurements, and (E) food supply and demand determinations;

(2) the terms "National Nutrition Monitoring and Related Research Program" and "coordinated program" mean the coordinated program established by section 101(a);

(3) the terms "Intergovernment Science Board for Nutrition Monitoring and Related Research" and "Board" mean the Federal coordinating body established by section 101(c);

(4) the terms "National Nutrition Monitoring and Related Research Plan" and "comprehensive plan"

mean the comprehensive plan established by section 103;

(5) the term "Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System" means the plan of that title submitted to the Congress in September 1981 by the Department of Agriculture and the Department of Health and Human Services, pursuant to section 1428 of Public Law 95–113;

(6) the terms "National Nutrition Monitoring Advisory Council" and "Council" mean the advisory body established by section 201;

(7) the term "Secretary", except where the context otherwise requires, means the Secretary of Health and Human Services; and

(8) the term "local government" means a local general unit of government or local educational unit.

TITLE I—NUTRITION MONITORING AND RELATED RESEARCH

ESTABLISHMENT OF THE COORDINATED PROGRAM

SEC. 101. (a) There is hereby established a ten-year coordinated program, to be known as the National Nutrition Monitoring and Related Research Program, to carry out the purpose of this Act.

(b) The Secretary of Health and Human Services shall be responsible for the implementation of the coordinated program.

(c) To facilitate the management and implementation of the coordinated program, there is hereby established an Intergovernment Science Board for Nutrition Monitoring and Related Research, of which the Assistant Secretary for Health in the Department of Health and Human Services, the Assistant Secretary for Science and Education in the Department of Agriculture, and the Assistant Surgeon General for Research and Development in the Department of the Army shall be joint chairpersons. The remaining membership of the Board shall consist of not more than 7 additional representatives of Federal agencies, as deemed appropriate by the joint chairpersons of the Board. The Board shall meet no less often than once every three months.

(d) To establish a central focus and coordinator for the Nutrition Monitoring and Related Research Program, the Secretary shall appoint, with the advice and consent of the Secretary of Agriculture, an Administrator of Nutrition Monitoring and Related Research in the Department of Health and Human Services. The Administrator—

(1) shall be an individual who is eminent in the field of nutrition monitoring and related areas, and

shall be selected on the basis of his or her established record of expertise and distinguished service;

(2) shall administer the coordinated program with the advice and counsel of the joint chairpersons of the Board, shall serve as the focal point for the coordinated program, and shall serve as the Executive Secretary for the National Nutrition Monitoring Advisory Council; and

(3) shall receive basic pay at not less than the rate provided for grade GS-16 in the General Schedule under section 5332 of title 5, United States Code, and not more than the rate provided for grade GS-18 in such Schedule.

FUNCTIONS OF THE SECRETARY

SEC. 102. (a) The Secretary, with the advice of the Board, shall—

(1) establish the goals of the coordinated program and identify the activities required to meet such goals;

(2) update and integrate the Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System into the coordinated program;

(3) assure the timely implementation of the coordinated program and the comprehensive plan established by section 103;

(4) include in the coordinated program and the comprehensive plan a competitive grants program, to be carried out and administered by the National Science Foundation in accordance with the provisions of this Act, to encourage and assist the conduct, by Federal and non-Federal entities on an appropriate matching funds basis, of research (including research described in section 103(a)(3)) which will accelerate the development of uniform and cost-effective standards and indicators for the assessment and monitoring of nutritional and dietary status and for relating food consumption patterns to nutritional and health status;

(5) include in the coordinated program and the comprehensive plan a grants program, to be carried out and administered by the Centers for Disease Control in accordance with the provisions of this Act, to encourage and assist State and local governments in developing the capacity to conduct monitoring and surveillance of nutritional status, food consumption, and nutrition knowledge and in using such capacity to enhance nutrition services (including activities described in sections 103(a)(5) and 103(b)(9));

(6) include in the coordinated program an annual interagency budget for each fiscal year of the program;

(7) foster productive interaction between Federal efforts, State and local governments, the private sector, scientific communities, health professionals, and the public;

(8) contract with a scientific body, such as the National Academy of Sciences or the Federation of American Societies for Experimental Biology, to interpret available data analyses and to publish every two years, or more frequently if appropriate, a report on the dietary, nutritional and health-related status of the population of the United States and the nutritional quality of the national food supply, with recommendations for dietary guidance and effective communication of such guidance to the public; and

(9)(A) foster cost recovery management techniques, and (B) impose appropriate charges and fees for publications of the coordinated program, including print and electronic forms of data and analysis, and utilize the proceeds of such charges and fees for purposes of the program (except that no such charge or fee imposed upon an educational or other nonprofit organization shall exceed the actual costs incurred by the program in providing the publication or publications involved).

(b) The Secretary shall submit to the President and the Congress by January 15 of each year an annual report which shall—

(1) evaluate the progress of the program under this Act;

(2) summarize the results of such program components as are developed under section 103;

(3) analyze the dietary, nutritional and related health status of the United States population, the nutritional quality of the national food supply, the relevant policy implications of the findings, and future nutrition monitoring and related research priorities;

(4) include in full the annual report of the Council as specified in section 202; and

(5) include an executive summary of the report most recently published by the scientific body specified in subsection (a)(8).

DEVELOPMENT OF THE COMPREHENSIVE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH PLAN

SEC. 103. (a) The Secretary, with the advice of the Board, shall prepare and implement a comprehensive plan for the coordinated program which shall be designed—

(1) to assess, collate, analyze, and report on a continuous basis the dietary and nutritional status and trends of the United States population (dealing with

such status and trends separately in the case of preschool and school-age children, pregnant and lactating women, elderly individuals, low income populations, Blacks, Hispanics, and other minorities as appropriate), the state-of-the-art, future monitoring and related research priorities, and relevant policy implications of the findings;

(2) to assess, analyze, and report on a continuous basis, for a representative sample of the low income population, food and household expenditures, participation in food assistance programs, and periods experienced when resources were not sufficient to provide an adequate diet;

(3) to sponsor or conduct research necessary to develop uniform indicators, standards, methodologies, technologies, and procedures for conducting and reporting nutrition monitoring and surveillance;

(4) to develop and update a national dietary and nutritional status data bank, a nutrient data bank, and other data resource requirements;

(5) to assist State and local agencies in developing procedures and networks for nutrition monitoring and surveillance; and

(6) to focus the activities of the Federal agencies.

(b) The comprehensive plan shall, as a minimum, include programs to—

(1) maintain and coordinate the National Health and Nutrition Examination Survey (NHANES) and the Nationwide Food Consumption Survey (NFCS);

(2) provide by 1990 for the continuous collection, processing, and analysis of nutritional and dietary status data through a stratified probability sample of the United States population designed to permit statistically reliable estimates of high-risk groups and geopolitical and geographic areas and to permit accelerated data analysis (including annual analysis, as appropriate);

(3) maintain and enhance other Federal nutrition monitoring efforts such as the Centers for Disease Control Nutrition Surveillance Program and the Food and Drug Administration Total Diet Study, and, to the extent possible, coordinate such efforts with the surveys described in paragraphs (1) and (2);

(4) incorporate, in the survey design, military and (where appropriate) institutionalized populations;

(5) complete the analysis and interpretation of NHANES and NFCS data sets collected prior to 1984 within one year after the date of the enactment of this Act;

(6) improve the methodologies and technologies, including those suitable for use by States and localities, available for the assessment of nutritional and dietary status and trends;

(7) develop uniform standards and indicators for the assessment and monitoring of nutritional and dietary status, for relating food consumption patterns to nutritional and health status, and for use in the evaluation of Federal food and nutrition intervention programs;

(8) establish national baseline data and procedures for nutrition monitoring;

(9) provide scientific and technical assistance, training, and consultation to State and local governments for the purpose of obtaining dietary and nutritional status data and developing related data bases and networks to promote the development of regional, State, and local data collection services to become an integral component of a national nutritional status network;

(10) establish mechanisms to identify the needs of users of nutrition monitoring data and to encourage the private sector and the academic community to participate in the development and implementation of the comprehensive plan and contribute relevant data from

non-Federal sources to promote the development of a national nutritional status network;

(11) produce an inventory of Federal, State, and nongovernment activities related to nutrition monitoring and related research;

(12) focus on national nutrition monitoring needs while building on the responsibilities and expertise of the individual membership of the Board;

(13) administer the coordinated program, define program objectives, priorities, oversight, responsibilities, outcomes, and resources, and define the organization and management of the Board and the Council; and

(14) provide a mechanism for periodically evaluating and refining the coordinated program and the comprehensive plan which facilitates cooperation and interaction by State and local governments, the private sector, scientific communities, and health professionals, and which facilitates coordination with non-Federal activities.

(c) The comprehensive plan shall allocate all of the projected functions and activities under the coordinated program among the various Federal agencies and offices that will be involved, and shall contain an affirmative statement and description of the functions to be performed and activities to be undertaken by each of such agencies and offices in carrying out the coordinated program.

(d) The comprehensive plan—

(1) shall be submitted in draft form to the Congress, and for public review, within twelve months after the date of the enactment of this Act;

(2) shall be available for public comment for a period of sixty days after its submission in draft form under paragraph (1) by means of publication in the Federal Register;

(3) shall be submitted in final form, incorporating such needed revisions as may arise from comments received during the review period, to the President and the Congress within sixty days after the close of the period allowed for comments on the draft comprehensive plan under paragraph (2); and

(4) shall constitute the basis on which each agency participating in the coordinated program requests authorizations and appropriations for nutrition monitoring and related research during the ten-year period of the program.

(e) Nothing in this section shall be construed as modifying, or as authorizing the Secretary or the comprehensive plan to modify, any provision of an appropriation Act (or any other provision of law relating to the use of appropriated funds) which specifies (1) the department or agency to which funds are appropriated, or (2) the obligations of such department or agency with respect to the use of such funds.

IMPLEMENTATION OF THE COMPREHENSIVE PLAN

SEC. 104. (a) The comprehensive plan shall be carried out during the period ending with the close of the ninth fiscal year following the fiscal year in which the comprehensive plan is submitted in its final form under section 103(d)(3), and—

(1) shall be carried out in accord with, and meet the program objectives specified in, section 103(a) and paragraphs (1) through (11) of section 103(b);

(2) shall be managed in accord with paragraphs (12) through (14) of section 103(b);

(3) shall be carried out, by the Federal agencies involved, in accord with the allocation of functions and activities under section 103(c); and

(4) shall be funded by appropriations which shall be made to such agencies (and to the Secretary) pursuant to section 106 for each fiscal year of the program, subject to annual authorizations hereafter enacted, and which shall to the maximum extent feasible be made pursuant to each such authorization for the fiscal year involved and the ensuing two fiscal years.

The Congress through its appropriate authorizing committees shall exercise continuing oversight over the coordinated program, taking into account the Secretary's annual reports and such other information and data as may be developed.

(b) Nothing in this title shall be deemed to grant any new regulatory authority or to limit, expand, or otherwise modify any regulatory authority under existing law, or to establish new criteria, standards, or requirements for regulation under existing law.

SCIENTIFIC RESEARCH AND DEVELOPMENT IN SUPPORT OF COORDINATED PROGRAM AND COMPREHENSIVE PLAN

SEC. 105. The Secretary shall provide for and coordinate the conduct, by the National Science Foundation, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Bureau of Standards, and other suitable Federal agencies, of such scientific research and development as may be necessary or appropriate in support of the coordinated program and the comprehensive plan and in furtherance of the purpose and objectives of this Act.

AUTHORIZATION OF APPROPRIATIONS

SEC. 106. (a) For the purpose of establishing and carrying out the competitive grants program under section 102(a)(4), there is authorized to be appropriated to the National Science Foundation, for the fiscal year in which the comprehensive plan is submitted in final form under section

103(d)(3) and for each of the nine succeeding fiscal years, the sum of $2,000,000, to remain available until expended.

(b) For the purpose of establishing and carrying out the grants program under section 102(a)(5), there is authorized to be appropriated to the Centers for Disease Control, for the fiscal year in which the comprehensive plan is submitted in final form under section 103(d)(3) and for each of the nine succeeding fiscal years, the sum of $1,000,000, to remain available until expended.

(c) Other authorizations and appropriations for the fiscal year in which the comprehensive plan is submitted in final form under section 103(d)(3) and for the nine succeeding fiscal years, for purposes of carrying out the coordinated program and implementing the comprehensive plan, shall be requested by the Secretary and by each of the agencies which are allocated responsibilities under the coordinated program pursuant to section 103(c), in a separate line item of the budget of the agency involved and consistent with the interagency budget for the coordinated program; and to the maximum extent feasible such appropriations shall be provided on a three-year basis, subject to annual authorization Acts hereafter enacted.

(d) Nothing in this title is intended either (1) to authorize the appropriation or require the expenditure of any funds in excess of the amount of funds which would be authorized or expended for the same purposes in the absence of the coordinated program, or (2) to limit the authority of any of the participating agencies to request and receive funds for those purposes (for use in the coordinated program) under other laws.

TITLE II—NATIONAL NUTRITION MONITORING ADVISORY COUNCIL

ESTABLISHMENT OF THE COUNCIL

SEC. 201. (a)(1) There is hereby established a Council to assist in carrying out the purpose of this Act, to provide scientific and technical advice on the development and implementation of the coordinated program and comprehensive plan, and to serve in an advisory capacity to the Secretary.

(2) The Council shall consist of fifteen voting members, of whom—

(A) seven members shall be appointed by the President; and

(B) eight members shall be appointed by the Congress—two by the Speaker of the House of Representatives, two by the minority leader of the House of Representatives, two by the President pro tempore of the Senate, and two by the minority leader of the Senate.

(2)(A) Of the two members appointed by the Speaker of the House of Representatives and serving at any time, one shall be appointed for a term of five years and one for a term of two years, as designated by the Speaker at the time of appointment.

(B) Of the two members appointed by the minority leader of the House of Representatives and serving at any time, one shall be appointed for a term of five years and one for a term of two years, as designated by the minority leader at the time of appointment.

(C) Of the two members appointed by the President pro tempore of the Senate and serving at any time, one shall be appointed for a term of five years and one for a term of two years, as designated by the President pro tempore at the time of appointment.

(D) Of the two members appointed by the minority leader of the Senate and serving at any time, one shall be appointed for a term of five years and one for a term of two years, as designated by the minority leader at the time of appointment.

Any member elected to fill a vacancy occurring prior to the expiration of the term for which his or her predecessor was appointed shall be elected for the remainder of such term. No member shall be eligible to serve continuously for more than two consecutive terms.

(g) The Council members shall be appointed or designated (without regard to the requirements of the Federal Advisory Committee Act) not later than ninety days after the date of the enactment of this Act.

(h) The Council shall meet no less often than once every three months at the call of the Chairperson, or upon the written request of one-third of the members. A majority of the appointed members of the Council shall constitute a quorum.

(i) Members of the Council who are not in the regular full-time employ of the United States may receive compensation when engaged in the duties of the Council at a rate fixed by the Secretary but not exceeding the daily equivalent of the rate provided for level GS–18 of the General Schedule under section 5332 of title 5, United States Code, and shall be allowed travel expenses as authorized by section 5703 of title 5, United States Code. Members of the Council who are officers or employees of the Federal Government or any State or local government shall serve without compensation but shall be allowed travel expenses as so authorized.

(j) The Administrator of Nutrition Monitoring and Related Research (appointed under section 101(d)) shall serve as the Executive Secretary of the Council.

FUNCTIONS OF THE COUNCIL

SEC. 202. The Council shall, in addition to any powers and functions granted to it by this Act—

(1) provide scientific and technical advice on the development and implementation of all components of the coordinated program and the comprehensive plan;

(2) evaluate the quality and effectiveness of the fulfillment of the functions and responsibilities of the coordinated program;

(3) evaluate the coordinated program and comprehensive plan, and the associated budget, on an annual basis and submit recommendations to the Secretary; and

(4) submit to the Secretary an annual report which shall contain the components specified in paragraphs (2) and (3), and which shall be included in full in the Secretary's annual report to the President and the Congress as specified in section 102(b).

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(3) The Council shall also include three ex officio nonvoting members designated from and by the Board for terms not to exceed five years.

(b) The persons appointed to the Council—

(1) shall be eminent in the fields of administrative dietetics, clinical dietetics, community nutrition research, public health nutrition, nutrition monitoring and surveillance, nutritional biochemistry, food composition and nutrient analysis, health statistics management, epidemiology, food technology, clinical medicine, public administration, health education, nutritional anthropology, food consumption patterns, food assistance programs, agriculture, and economics; and

(2) shall be selected solely on the basis of established records of distinguished service.

(c) The persons appointed to the Council by the President shall include—

(1) two members who are directors of nutrition research units which are primarily supported by Federal funds, and who have specialized interest in nutrition monitoring;

(2) one member who is an employee of a State government and who has a specialized interest in nutrition monitoring;

(3) one member who is an employee of a local government and who has a specialized interest in nutrition monitoring; and

(4) one member who is an appointed representative of the Food and Nutrition Board, National Academy of Sciences.

(d) The Council membership shall at all times have representatives from various geographic areas, the private sector, academia, scientific and professional societies, minority organizations, and public interest organizations.

(e) The Chairperson and Vice Chairperson of the Council shall be elected from and by the Council membership. The terms of office of the Chairperson and the Vice Chairperson shall not exceed five years. The Vice Chairperson shall perform the duties of the Chairperson in the latter's absence. In case a vacancy occurs in the Chairpersonship or Vice Chairpersonship, the Council shall elect a member to fill such vacancy.

(f) The terms of office of the voting members of the Council shall be as follows:

(1) Of the seven members appointed by the President and serving at any time, one shall be appointed for a term of five years, five for terms of three years each, and one for a term of two years, as designated by the President at the time of appointment.